MINNESOTA COASTAL ZONE MANAGEMENT PROGRAM

supplement to first draft czm plan

COASTAL ZONE MANAGEMENT

STATE OF MINNESOTA

STATE PLANNING AGENCY
101 CAPITOL SQUARE BUILDING
550 CEDAR STREET
ST. PAUL, 55101

September 21, 1977

TO THE READER:

This document contains supplemental material to the First Draft CZM Plan mailed earlier. This material was bound as a supplement because it has not as yet been approved by the CZM Policy Advisory Committee. Their review will occur at the next meeting scheduled for October 17th in Two Harbors.

We would appreciate receiving your written comments by Wednesday, October 13th, so they can be compiled for PAC consideration. Please send your comments to:

Roger S. Williams, Manager
Pilot Projects
State Planning Agency
550 Cedar Street
Room 100
St. Paul, MN 55101

SUPPLEMENT 1

Compendium of Programs for Consistency Monitoring

COASTAL ZONE MANAGEMENT

A COMPENDIUM OF STATE AND FEDERAL PROGRAMS FOR POTENTIAL CONSISTENCY MONITORING

The consistency provisions of the Coastal Zone Management Act require that local, state and federal levels of government must administer their activities, regulatory functions, and assistance programs in a manner consistent with the approved coastal zone plan. To our knowledge, no other federal program contains this provision and as such, CZM provides citizens and various levels of government with a unique opportunity to have a direct voice in the way a plan is implemented.

To meet this requirement of the Act, the final CZM plan must contain a listing of activities, permits, etc. to be monitored. As a first step, CZM staff has compiled a list of current state programs for review by PAC and others. The Office of Coastal Zone Management compiled the federal list.

Staff is not suggesting that all programs listed in this compendium should be monitored. Our mission was to compile as thorough a list as possible to serve as a basis for determining which programs should be monitored. As such, programs may be eliminated while others, that we might have missed, could be added.

In selecting programs for monitoring, it may be helpful to keep three things in mind:

1. Monitoring will require staff time and money. The larger the list, the larger the staff and cost to do the job.
2. Monitoring may slow the granting of permits, licenses, and funds as well as delay state or federal development and management activities. Monitoring should not be viewed as a way of "buying time" and delays should be minimized.
3. Monitoring should be reserved for those programs that really have meaningful affects, positive or negative, within the coastal zone. Effects could be related to the natural or man-made environment, the economy or the ability of others to successfully and efficiently implement their portions of the CZM program.

A discussion of programs for monitoring will be an agenda item at the October PAC meeting. PAC members, action committees and public agencies should review these programs in advance so they can be meaningfully discussed.

PART I - FEDERAL

A. Permits and Licenses
B. Grants (To be completed)
C. Activities (To be completed)
D. Monitoring Procedure (See Chapter III - Organization and Authorities)

FEDERAL PERMITS AND LICENSES

DEPARTMENT OF AGRICULTURE

U. S. Forest Service

16 USC 522, 523	Under Section 522 the USFS issues permits for water plants, dams, canals, ditches and other water easements on the National Forest lands. Rights-of-way for power and communications facilities are issued under Section 523.
16 USC 5801	The Secretary of Agriculture is authorized to issue permits for the grazing of livestock.
16 USC 497	The Forest Service issues permits for the construction and maintenance of hotels, resorts, summer houses, stores and facilities for industrial, commercial, educational or public use on National Forest Service lands.

The Forest Service administers two general classifications of lands: those reserved from the public domain and lands acquired by the U.S. through purchase, exchange or donation. Under lands reserved from the public domain the Bureau of Land Management has the authority to issue oil or gas pipeline rights-of-ways and permits for subsurface oil and gas storage. However, on lands acquired by the United States through purchase or exchange and donation, the Secretary of Interior must obtain the approval of the Secretary of Agriculture before permits can be given for mining of oil, gas, coal, uranium and for the underground storage of oil and gas.

DEPARTMENT OF COMMERCE

Office of Coastal Zone Management

33 USC 1401-1444	Marine Protection, Research and Sanctuaries Act of 1972, Section 302(f). After a marine sanctuary has been designated the Office of Coastal Zone Management must certify that all permits for activities within the designated area are consistent with the Act.

DEPARTMENT OF COMMERCE

National Marine Fisheries Service (NMFS)

16 USC 1374

The Marine Mammal Protection Act of 1972 gives the NMFS a wide range of responsibilities for issuing permits for the taking or importing of marine mammals, e.g., whales, dolphins, and seals. Excluded from coverage are walruses for which the Department of Interior's Fish and Wildlife Service has the permitting responsibility.

The NMFS has responsibilities under the Fish and Wildlife Coordination Act (16 USC 661-667(e)). This act gives the NMFS authority to review permits issued by other Federal agencies for permission to conduct activities which might affect marine life and its habitat. Permits subject to this review would include, in part, those issued by the Army Corps of Engineers for dredge and fill, the Bureau of Land Management for OCS leasing, and the Nuclear Regulatory Commission for siting nuclear power plants.

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service (F&WS)

16 USCA 1374 — Marine Mammal Protection Act of 1972. Under this provision the F&WS is responsible for the protection and conservation of walruses.

The F&WS is also covered by the Fish and Wildlife Coordination Act (16 USC 661-667(e)) which states that ". . . whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled by modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license, such department or agency first shall consult with the United States Fish and Wildlife Service, Department of the Interior. . . ."

U. S. DEPARTMENT OF THE INTERIOR

U. S. Geological Survey (USGS)

The USGS issues permits for offshore geological and geophysical exploration on the Outer Continental Shelf. See 30 Code of Federal Relations, Part 250.

The USGS also grants rights-of-way for "gathering" pipelines, that is, pipelines which run between wells or srorage areas to common carrier pipelines. Section 43 Code of Federal Regulations, Part 2880, Subpart 2883.

DEPARTMENT OF THE INTERIOR

Bureau of Land Management (BLM)

The Bureau of Land Management is responsible for a range of permitting and licensing activities associated with its land and resources management programs on the National Resource Lands, Outer Continental Shelf, certain acquired lands, and Federal mineral ownership under private surface.

The following is a list of the Bureau's permitting and licensing activities. (NOTE: The activities and authorities cited are not all inclusive.)

Rights-of-Way Permits for:

1. Tramroads, including tramways, railroads, motor-truck roads (used in connection with mining, quarrying, logging, and manufacturing of lumber) -- 43 U.S.C. 956.

2. Roads and Highways -- 23 U.S.C. 107, 317.

3. Railroads, Wagon Roads, and Tramways in Alaska -- 48 U.S.C. 411 et seq.

4. Railroads and Station Grounds Outside of Alaska -- 43 U.S.C. 934 et seq.

5. Power Transmission Lines -- 43 U.S.C. 959.

6. Radio and Television Sites -- 43 U.S.C. 961.

7. Telephone and Telegraph Lines -- 43 U.S.C. 959.

8. Irrigation -- 43 U.S.C. 946 et seq.

9. Watering Livestock -- 43 U.S.C. 952 et seq.

10. Water Plants -- 43 U.S.C. 959.

11. Oil and Natural Gas Pipelines and Pumping Plant Sites under the Mineral Leasing Act -- 30 U.S.C. 185.

12. Common Carrier Pipelines on the Outer Continental Shelf -- 43 U.S.C. 1331 et seq.

Special Land Use Permits for:

Advertising Display; Water Wells; Commercial Facilities and Services; and Sport Events, Races, and Rallies -- 43 U.S.C. 1, 2, 1201; 43 U.S.C. 1411 et seq., and 43 U.S.C. 1361 et seq.

Grazing Permit (when issued for more than one year) -- 48 U.S.C. 250.

Grazing License (when issued for one year) -- 43 U.S.C. 315.

Coal License (when issued to individuals and associations to mine coal for domestic use only) -- 30 U.S.C. 201 et seq.

DEPARTMENT OF TRANSPORTATION

U. S. Coast Guard (USCG)

33 USC 401	This section grants the Coast Guard authority for issuing permits for the construction and modification of bridges, causeways, dams or dikes in navigable waters of the U.S.
33 USC 1501	The Deepwater Port Act of 1974 gives the Coast Guard licensing powers (see Sec. 1503) for the location, ownership, construction, and operation of deepwater ports in waters beyond the territorial limits of the United States. This act is cited because of the onshore impacts which will now occur in the coastal zone.

NUCLEAR REGULATORY COMMISSION

The Nuclear Regulatory Commission (NRC) was established by the Energy Reorganization Act of 1972 (42 USCA 5801-91). In this act the licensing authorities of the Atomic Energy Administration were transferred to the NRC (42 USCA 2011 et. seq.)

The NRC licenses, among other things, the construction and operation of nuclear power plants; the production, transfer, import and export of fissionable materials; and the disposal of radioactive waste.

42 USC 2131-2140 — Full information on the licensing responsiblities of the NRC can be found in Subchapter IX, Atomic Energy License.

DEPARTMENT OF DEFENSE

U. S. Army Corps of Engineers (COE)

The COE is responsible for a wide range of permitting activities. The complete Army permit programs can be found in the Code of Federal Regulations Title 33, Section 209.120. However, there are four acts which are of most concern to the coastal states.

33 USC 403	Rivers and Harbor Act of 1899, Section 10. This section prohibits the creation of any manmade obstruction in the navigable waters of the United States. In addition, it is unlawful to excavate or fill in the navigable waters of the United States without a Section 10 permit. Under this act the term navigable waters means those waters which have been used in the past for commercial navigation, are being used or are susceptible to being used for commercial navigation. 1/
33 USC 1344	Federal Water Pollution Control Act, Section 404. This act requires that a permit be issued for the discharge of dredged or fill material at specific disposal sites in the navigable waters of the United States. 2/ Under this act "navigable waters" means the waters of the United States including the territorial seas. 1/
33 USC 1413	Marine Protection Research and Sanctuaries Act of 1972, Section 103 (Ocean Dumping). The COE may issue permits for the transportation of dredged material for the purpose of dumping it into ocean waters. 2/ Ocean waters means those waters of the open seas lying seaward of the baseline from which the territorial sea is measured.

1/ In certain cases where there is jurisdictional overlap both a Section 10 and a Section 404 permit would be required for the discharge of dredged materials.

2/ Environmental Protection Agency guidelines are used for determining whether a permit will be issued.

DEPARTMENT OF DEFENSE

U. S. Army Corps of Engineers (COE) continued

43 USC 1333(f)	Outer Continental Shelf Lands Act, Section 4(f). This act covers obstruction to navigation by artificial islands and fixed structures on the continental shelf.

FEDERAL POWER COMMISSION

16 USC 791 et. seq.	Under the Federal Power Act the FPC has the authority to issue permits and licenses for the construction and operation of hydroelectric power plants and transmission on land or waters subject to Federal jurisdiction. See Sec. 797(e), General Powers of the Commission, Issue of License for Contracting, etc.
43 USC 1334(c)	The Outer Continental Shelf Lands Act gives the FPC authority to grant rights-of-way for natural gas pipelines or submerged lands.
43 USC 717	The Natural Gas Act allows the FPC to issue permits for the construction and operation of interstate gas pipelines and storage facilities. See Section 717(f), Construction, Extension and Abandonment of Facilities.

DEPARTMENT OF THE INTERIOR

National Park Service (NPS)

16 USC 3	The Secretary of the Interior grants permits for the use of land for the accommodation of visitors in the various National Parks, Monuments or other reservations.
16 USC 5	The Secretary may also grant permits or rights-of-way for electrical transmission lines and for the purposes of siting communications facilities on NPS land.

ENVIRONMENTAL PROTECTION AGENCY

33 USC 1251	Federal Water Pollution Control Act of 1972. It is the intent of this legislation to prevent, reduce and eliminate water pollution in the United States. The EPA is responsible for approving or issuing licenses or permits which specify the maximum amount of pollutant which can be discharged into the Nation's waters. A pollutant cannot be discharged without a permit and in most cases state certification is required before a Federal agency can issue a permit. General information on the certification of permits and licenses is contained in Section 1341. Basically, an applicant applying for a Federal license must comply with the provisions governing: Effluent Limitations, Section 1311; Water Quality Related Effluent Limitations, Section 1312; National Standards of Performance, Section 1316; and Toxic and Pretreatment Effluent Standards, Section 1317. After certification the permit can be issued under Section 1342,,the National Pollutant Discharge Elimination System. Criteria for issuing permits "involving" ocean discharge are contained in Section 1343; for discharge of dredge or fill material (which is administered by the Corps of Engineers) are in Section 1344; and for the disposal of sewage sludge, Section 1345.
33 USC 1857 to 1857(f) 1857(f) to 1857 F-7, 1857 (f)(g) to 1857(e)	Clean Air Act. Under the Clean Air Act the Administrator of EPA, sets standards or criteria for air pollution which must be met. EPA does not issue a clean air permit or license, however, waiver from compliance can be granted under Section 1857 C-5(e) which allows an extension of the time for meeting the national primary and ambient air quality standards in the implementation plan; and Section 1857 C-7, which covers exemptions for stationary sources.

33 USC 1401-1444	Ocean Dumping Act. This act covers the "dumping of material" in ocean waters. The term material includes: solid waste, incinerator residue, garbage, acid waste, agriculture waste, etc. (The act also covers dredged material under Section 1413 but permits for this are issued by the Army Corps of Engineers.) The EPA's permit legislation is defined in Section 1412, Dumping Permit Program.

PART II - STATE

A. Permits
B. Grants
C. Activities
D. Monitoring Procedure (To be completed)

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
DNR	Conservation	MS 84.415	Utility Crossings of Public Lands/ Waters	permit needed for telephone, telegraph, and electric power lines, cables, or conduits, underground or otherwise, or mains or pipelines for gas, liquids, or solids in suspension
		MS 84.47	Aircraft Operation in Wilderness Areas	permit needed if private property in wilderness area is improved and used for purposes for which air transportation is essential
		MS 84.58	Underground Storage	permit needed for underground liquid and gas storage
		MS 84.62	Certificate of Use	no use shall be made of gas or liquid storage reservoir until the right to use the property involved has been issued a certificate of need
		MS 84.621	Storage in Natural Formations	permit needed for storage of any gas or liquid, except water, below the natural surface of the ground by using naturally occurring rock materials as a storage reservoir
	Forestry	MS 89.17	Use of State Forest Lands	permit needed for the use of any state forest land for any purpose which is not inconsistent with the maintenance and management of state forest
		MS 89.18	Roads through State Lands	permit needed for public highways, other than a state trunk highway
		MS 90.151	Cutting and Removal of Timber	permit needed for cutting and removal of state timber sold at public auction
			Informal Sale of State Timber	permit needed for cutting and removal of sale timber sold informally
		MS 90.50	Leasing of Unsold Lands Subject to Sale	leases for any state-owned lands for the purpose of taking and removing sand, gravel, clay, rock, marl, peat, and black dirt, for storing ore, waste materials from mines, or rock and tailings from ore milling plants, for roads, or railroads, or for any other uses not inconsistent with the interests of the state

*Also includes plan review and approval, leases, and certificates.

Responsible Agency	Topic	Statutory Reference	Name of Permit *	Description
DNR	Lands and Minerals	MS 93.08	Prospecting for Minerals under Waters and Meandered Lakes/ Streams	permit required for prospecting for gold, silver, copper, cobalt, coal, graphite, petroleum, sand, gravel, stone, natural gas, and all minerals, excepting iron ore, under the waters of any public lake or stream in the state
		MS 93.14	Prospect for Ores	permit required for prospecting for iron ore and other ores upon state lands or in which state has an interest
		MS 93.24	Mining of Other Than Iron Ores	permit needed to mine gold, copper, silver, cobalt, coal, graphite, manganese, iron sulphides or other sulphur ores, titaniferous magnetites or any other valuable mineral believed to exist on lands included within a prospecting permit or lease not covering such mineral
		MS 93.25	Prospecting Permits, Other than Iron	permits needed to prospect for gold, silver, copper, cobalt, graphite, coal, and petroleum and other minerals than iron ore
		MS 93.34 Subd. 1	Mining under Public Waters	permit needed to mine any mineral below the low water mark of any public lake or river
		MS 93.43	Permits, Licenses, and Leases to Copper, Cu/Ni, or Nickel Producers	permits or licenses on and across lands owned by the state to any corporation or association engaged in the business of or preparing to engage in the business of mining, producing or beneficiating copper, copper-nickel or nickel for pipelines pole lines, conduites, sluiceways, roads, railroads, tramways or flowage, and to lease any lands owned by the state to any such corporation or association for the depositing of stripping, lean ores, tailings, or waste products of such business
		MS 93.481	Permit to Mine	permit needed to engage in or carry out a mining operation for metallic minerals within the state (application must include a proposed plan for the reclamation or restoration, or both, of any mining area affected by mining operations)

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
DNR	Game/ Fish	MS 97.48, Subd. 3	Assessment of Lake Superior White Fish and Lake Trout	permit for netting a limited amount of these fish by selected commercial fishermen to obtain statistical data for research purposes
		MS 97.48, Subd. 3 & 4	Experimental Commercial Fishing	permit to allow a commercial fisherman to use a trawl for catching smelt for commercial use
		MS 97.48, Subd. 8	Importing Fish	permit to transport live fish or eggs into or through the state
		MS 97.48, Subd. 8	Stocking Public Waters	permit is required for stocking by anyone other than the DNR
		MS 98.48 Subd. 9	Aquatic Nuisance Control	permit for the control of aquatic nuisance so as to provide maximum recreational and other beneficial use of public waters without significant damage to fish and wildlife populations and lake ecosystems
	Drainage and Waters	MS 105.41	Appropriation and Use of Water	permit for the appropriation or use of any state waters, surface or underground, for any purpose except for domestic use serving less than 25 persons
			Temporary Water Appropriation	permit needed for water appropriation involving a one-time limited time (not more than 12 months, non-recurring appropriation of state waters) does not include domestic use serving less than 25 persons
		MS 105.42	Work in Public Waters	permit to construct, reconstruct, remove, abandon, transfer ownership, or make any change in any reservoir, dam, or waterway obstruction on any public water; or in any manner, to change or diminish the course, current, or cross-section of any public waters by any means, including but not limited to filling, excavating, or placing of any materials in or on the beds of public waters permit to establish, construct, maintain and control wharfs, docks, piers, levees, breakwaters, basins, canals. hangars in or adjacent to public waters of the state except within the corporate limits of cities

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
DNR	Drainage and Waters		Alterations of Natural Water Courses	permit needed for the alteration of natural water courses, in whole or in part
			Beach Sand Blankets	permit needed for the development of public and private beach areas along lakeshore wherever such a desired alteration would be feasible and practical without contribution of excessive fill material to the lacustrine environment or unwarranted destruction of fish and wildlife habitat
			Bridge and Culvert Installations	permit needed for the construction of public and private roadways which cross or encroach upon public waters
			Construction or Reconstruction of Permanent Docks	permit needed for the construction, reconstruction removal or abandonment of permanent docks in public waters consistent with lacustrine and shoreline conditions
			Dam Construction or Reconstruction	permit needed to construct or reconstruct, remove, transfer ownership, or make any change in any dam
			Dredging of Public Waters	permit needed for dredging within public waters except for barge facilities
			Filling into Public Waters	permit needed for the placing of fill materials into public waters
			Inland Excavations	permit needed for any excavation intended to extend the cross section of public waters landward of the natural or pre-existing shoreline
			Intakes and Outfalls	permit needed for constructing water intake and storm sanitary sewer outfall structures in public waters
			Maintenance Excavation of Existing Channels/ Harbors	permit needed for the periodic maintenance excavation of existing boat harbors and channels located on public waters of the state to maintain their utility without damage to material resource values

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
DNR	Drainage and Waters		Navigational Access Facilities	permit needed for construction of navigational access facilities within the public waters of the state
			Off-Shore Marinas	permit needed for the construction of harbors, marinas, and breakwaters which extend waterward of the shoreline of public waters
			Private Off-Shore Breakwater & Harbors	permit needed for the construction of harbors and breakwaters which extend waterward of the shoreline of public waters
			Public Off-Shore Harbor Projects	permit needed for the construction of harbors, marinas, and breakwaters which extend waterward of the shoreline of public waters
			Retaining Walls	permit needed for the construction of retaining walls along the shores of public waters to achieve shoreline stabilization and/or direct shoreland docking
			Riprap Shore Protection	permit needed for correcting or preventing bank erosion problems along the shorelines of public waters by the placement of riprap shore protection
			Water Level Controls	permit needed for controlling water levels
			Watermain and Sewer Crossings	permit needed for the construction of watermains storm and sanitary sewer lines across public waters of the state
			Waterway Obstructions	permit needed to construct, reconstruct, or relocate offshore structures, cables other than utility crossings, pilings, permanent diving platforms, or other facilities constituting waterway obstructions
			Wharves	permit needed for construction or reconstruction of wharves in public waters
		MS 105.64	Drainage or Diversion of Water to Facilitate Mining	permit needed for drainage, diversion, control, or use of any waters under DNR jurisdiction when necessary for the mining of iron ore, taconite, copper-nickel, or nickel

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
DNR	Eminent Domain	MS 117.47	Use of State Lands for Taconite Mining	permit needed for taconite mining activities to occur on or across state owned lands for the depositing of stripping lean ores, tailings, or waste products of such business
		MS 117.48	Use of State Lands for Crude Oil Pipelines	permit needed for transporting crude petroleum, oil, their related products and derivatives including liquified hydrocarbons by pipeline as a common carrier on or across state-owned lands

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
DOT	Highways/ Roads	MS 160.18 Subd. 2	Access to Roads (Entrance Permit)	permit needed to provide vehicle access from abutting property to the highway for agricultural, residential or commercial use including intersecting municipal, county or township roads onto state highways
		MS 160.20	Connecting Drains to Highway Drains (Application for Drainage Permit)	permit needed to connect a drain or ditch of natural drainage system on private land to any drain or ditch constructed along or across the highway
		MS 160.24	Logging Railroads Across Highways	permit needed to locate, construct, and maintain logging railroad across any highway under a road authority's jurisdiction (road authority varies according to type of road involved)
		MS 160.25	Tunnels under Highways	permit needed by any owner or lessee of land abutting both sides of a highway to tunnel under the highway for such purposes as the owner or lessee deems desirable in utilizing the lands (road authority varies according to type of road involved)
		MS 160.27	Limited Use	permit needed to authorize the use of existing right-of-way by an outside agency
		MS 161.433	Use of Air Space Above & Subsurface below Trunk Highway	lease or permit needed for the use of the air space above and subsurface area below the surface of the right of way where the land is owned in fee by the state for trunk highway purposes
		MS 161.45	Public Utilities & Works on Trunk Highways	permit needed for electric transmission, telephone, or telegraph lines, pole lines, community antennas, television lines, railways, ditches, sewers, water, heat or gas mains, gas and other pipelines, flume, or other structures to be constructed, placed, or maintained across or along any trunk highway
		MS 169.86	Transportation Permit	permit needed for movement of vehicles over trunk highways that exceed width, height, length, and weight requirements
		MS 169.861	Twin Trailer	to license carriers with oversized trailers to travel state highways

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
DOT	Highways/ Roads	MS 173.03	Permits within Scenic Areas	permit needed for the erection or maintenance of any advertising device located within a scenic area
		MS 173.13	Devices along Inter-State Highways (Advertising Permit)	permit needed for the erection or maintenance of advertising devices adjacent to interstate and primary system of highways
	Aeronautics	MS 360.018 Subd. 6	Licensing of Airports/ Other Air Navigation Facilities	certificate of approval needed for all proposed airports, restricted landing areas, and other air navigation facilities

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
Energy Agency	Environmental Protection (energy)	MS 116H.13	Certificate of Need	certificate of need required for the siting or construction of a large energy facility
Environmental Quality Board		MS 116C.57 Subd. 1	Certificate of Site Compatibility	certificate needed for large electric power generating plants indicating that site is compatible with site selection standards
		MS 116C.57 Subd. 2	Permit for Construction	permit needed for construction of high voltage transmission lines
Executive Council	Lands and Minerals	MS 93.13	Draining of Lakes and Leasing of Ore Lands in Beds	permit needed for draining and removal of iron ore from lake bed when surrounded in part by state land upon which a state mineral lease has been issued
		MS 93.34 Subd. 2	Draining of Meandered Public Lake for Mineral Purposes	permit needed to drain any meandered public lake for the purpose of mining of minerals

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
Health Department	Health	MS 144.12	Plan Review -Public Water Supplies -Semi-public Water Supplies -Semi-public Water & Sewer Services -Public & Semi-public Fluoridation -Semi-public Sewage Disposal -Public Swimming Pools -Public & Semi-public Plumbing Systems	public and semi-public plan review under general powers of the Health Department including original plans and modifications
			Migrant Labor Camps	construction, equipment and maintenance with respect to sanitary conditions
			Radiation	any fixed installation (or remodeling thereof) which includes a registerable source of ionizing radiation. Source, handling, storage, transportation, use and disposal
		MS 144.50-.58	License for Hospitals	hospitals, sanitoriums or other institution for hospitalization or care of humans shall not operate without obtaining a license
		MS 144.71-.76	Children's Camps	permit to operate, facility must comply with MDH 201
		MS 145.71-.84	Certificate of Need for Health Care Facilities	determines necessity for construction or modification of health care facilities
		MS 157	License for Food, Beverage or Lodging Establishments	facilities must comply with applicable MDH rules
		MS 327.10-.28	License for Mobile Home Parks & Recreational Camping Areas	plan review prior to construction of new facilities or additions

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
PCA	Environmental Protection (air quality)	MS 116.07 Subd. 4A		permits needed for the emission of air contaminants, or for the installation or operation of any emission facility, air contaminant treatment facility, treatment facility, potential air contaminant storage facility, or storage facility, or any part thereof, or for the sources or emissions of noise pollution
			Installation Permit (APC 3)	permit needed for the installation or construction of an emission facility or air quality control equipment
			Operating Permit (APC 3)	permit needed for the operation of an emission facility or air quality control equipment
			Indirect Source Permit (APC 19)	permit needed for the construction of any of the following: highways/roads; parking facilities; retail, commercial, and industrial facilities; recreation, amusement, sports, and entertainment facilities; airports; office and government buildings; apartment and condominium buildings; and educational facilities
	(noise)		no permits, but variances can be issued	variances can be issued when by reason of exceptional circumstances strict conformity with any provisions of any noise regulation would cause undue hardship, would be unreasonable, impractical, or not feasible under the circumstances

Responsible Agency	Topic	Statutory Reference	Name Permit*	Description
PCA	Environmental Protection (water quality)	MS 115.03 Subd. (e) (3) (WPC 4)	Storage or Keeping of Oil and Other Liquid Substances (Liquid Storage Sites)	permit needed to construct or modify safeguards for prevention of the escape or movement of a substance or a solution from a storage facility whereby pollution of any waters of the state may result
		MS 115.07 Subd. 1 (WPC 36)	Construction and Operation of a Disposal System (State Disposal System)	permit needed to construct, install, or operate a disposal system
		MS 115.07 Subd. 3	Sewer Extension	permit needed to make any change in, addition to or extension of any sanitary sewer system
		PL 92-500 Federal Water Pollution Control Act Amendment of 1972	National Pollutant Discharge Elimination	permit needed for construction of wastewater treatment facilities and the discharge of wastewater to surface waters of the state (authority to issue federal permits given to PCA)
		PL 92-500 Federal Water Pollution Control Act Amendment of 1972	Section 401 Certification	state certification that any application for a federal license or permit to conduct any activity which may result in any discharge into waters of the state will comply with the applicable state and federal water quality laws and regulations

Respon-sible Agency	Topic	Statutory Reference	Name of Permit*	Description
PCA	Environ-mental Protec-tion (solid waste)	MS116.07 Subd. 4A		permits needed for the collection, transporta-tion or disposal of solid waste, or for the installation or operation of any system or facility, or any part thereof, related to the collection, transportation, or disposal of solid waste
				permits needed for the treatment or disposal or both of hazardous waste, or for the installation or operation of any system or facility or any part thereof
		and MS 116.081		permit needed to construct, install or operate an emission facility, air contaminant treatment facility, treatment facility, potential air contaminant storage facility, storage facility, or system or facility related to the collection, transportation, storage, or disposal of solid waste
			Construction and Opera-tion of a Solid Waste Disposal System (Sanitary Landfill) (SW 6)	permit needed for construction and operation of sanitary landfills and demolition land-fills (includes modified landfills and other land burial sites)
			Incineration (SW 7)	permit needed for solid waste and hazardous waste incinerators
			Composting (SW 8)	permit needed for composting of solid waste
			Transfer Stations	permit needed for placing into operation a transfer station
		MS 116.07, Subd. 7	Construction/ Operation of an Animal Facility, Live-stock, Feedlots, Poultry Lots and Other Animal Lots (SW 53)	permit needed for the collection, transporta-tion and disposal of animal waste

Responsible Agency	Topic	Statutory Reference	Name of Permit*	Description
PCA		Proposed Regulation	Hazardous Wastes	permit needed for transportation and storage of hazardous waste
		MS 116.37, Subd. 1 WPC 38 (Proposed	Polychlorinated Biphynels (PCB)	certificate of exemption needed to use, possess, sell, purchase or manufacture PCB or products containing PCB

Administering Agency	Authorizing Legislation	Grant Program Title*	Nature and Purpose of Program
DNR	Session Laws '77, Chap. 455	Acquisition, Development, & Maintenance of Recreational Land Trails	To provide trails for snowmobiling, skiing, snowshoeing, horseback riding, bicycling, hiking, and backpacking
	MS 105	Grants-in-Aid to Local Units of Government	Provides funds to local units of government for dam maintenance and repair, stream maintenance, and lake improvement
DOT	MS 360 1969	Airport Buildings	To assist municipalities in airport capital improvements
	MS 360 1969	Airport Construction	To assist municipalities in developing a state airport system to handle transportation needs
	MS 360 1969	Master Planning Airports	To develop plans for a specific airport based on long-range forecasting
	Session Laws '77, Chap. 277	Bridge Replacement	To replace deficient bridges on county, township, and city roads
	Session '76 Chap. 339 Session '77 Chap. 277	Bridge Bonding	For reconstruction and construction of bridges in the state
	Session Laws '77, Chap. 421	State Bicycle Trails	To develop local bicycle trails primarily on existing road rights-of-way
	Session Laws '77, Chap. 454, Sec. 22	Para-transit Demonstration Program	To evaluate the cost, effectiveness, and efficiency of para-transit systems
	Session Laws '74, Chap. 534 and 535	Transit Demonstration Program	To preserve and develop public transit and a balanced transportation system
	MS 162	County State Aid Distribution	For construction and maintenance of county state aid highways
	MS 162	Municipal State Aid Distribution	For construction and maintenance of municipal state aid highways
	Title 23 US Code	Federal/County Highway Development Assistance	For improvement and development of local roads and streets utilizing federal and local funds

*State financial assistance or federal funding, but state administered program

Administering Agency	Authorizing Legislation	Grant Program Title*	Nature and Purpose of Program
DOT	Session Laws '76, Chap. 204 and MS 222.49 & .50	Rail Improvement Planning and Programming	State and federal funds made available from the Minnesota Rail Service Improvement Program and Federal Rail Service Continuation Program for the purpose of rehabilitating deteriorated branch lines and to allow continued rail service on marginal branch lines
Historical Society	Session Laws 1969, Chap. 956	Historic Grant-in-Aid	To assist historic preservation projects not currently receiving state funds
	Session Laws 1969, Chap. 894; 1139, Sec. 48	Historic Sites Survey	To locate, identify, and develop a statewide historic sites program
	National Historic Preservation Act of 1966	Historic Preservation Grants-in-Aid	To assist in acquisition, restoration, or preservation of sites listed in the National Register of Historic Places
PCA	Federal Water Pollution Control Act	Wastewater Treatment Works Construction	For planning and constructing publicly-owned wastewater treatment facilities
	Session Laws '73, Chap. 648	Resource Recovery	Assist in the development of feasibility studies, markets, public education, resource facilities and the implementation of resource recovery systems
Soil and Water Conservation Board	Session Laws '75, Chap. 204, Sec 55, Subd. 6(f) & Laws '77, Chap. 455, Sec. 33, Subd. 7(n)	Sedimentation and Erosion Control	To solve sedimentation and erosion problems relating to lake shore, stream bank and road side erosion (only applies to roads built before 1971) and, within corporate limits of a municipality, upland gully erosion
	Session Laws '77, Chap. 304	Minnesota Cost/ Share Program	To provide for long-term conservation practices on lands (funds go to private landowner, not local units of government
SPA	Session Laws '77, Chap. 455	Parks and Open Space Grants	To provide financial assistance to local units of government for the acquisition and development of parks and open space (includes harbors of refuge program)

Administering Agency	Authorizing Legislation	Grant Program Title*	Nature and Purpose of Program
SPA	Session Laws '77, Chap. 421	Grants for Developing Trails	To provide for hiking, bicycling, and cross-country skiing trails
	Session Laws '77, Chap. 421	Grants for Regionally Significant Parks in Outstate SMSA/s	To acquire and develop parks, trails, conservatories, zoos, and special use facilities, all of which must have regional significance (in coastal zone, only applies to St. Louis County)
	MS 4.27-4.31	Land Use Planning Grant Program	To provide counties and municipalities with financial assistance to conduct land use planning activities
	Federal Housing Act of 1975, as amended	701 Planning Assistance	To prepare comprehensive land use plans

Agency Responsible	Activity	Nature or Purpose of Activity
DNR	Acquisition of Scientific and Natural Areas	preserve, protect, and manage lands and waters possessing inherent natural values, including soils, waters or sediments, sites of scientific value, habitats of rare or endangered species of plants and animals, places of historic or prehistoric interest and scenic beauty, and areas uniquely suitable for teaching natural hsitory and conservation
	Development and Management of Scientific and Natural Areas	develop management plans for each designated area to protect such lands from adverse use and to assure their protection and perpetuation for public use for research and education
	Acquisition for the Wild and Scenic Rivers Program	acquire land, or interests in land (particularly scenic easements) along rivers designated components of the wild, scenic and recreational rivers system; to preserve the scenic views and vistas, protect the natural character of the shorelines, and maintain the open space (including agricultural lands)
	Development and Maintenance for the Wild and Scenic Rivers Program	prepare and implement management plans necessary to protect wild and scenic river corridors
	Forest Roads	construct new forest roads and reconstruct and maintain existing forest roads which provide fire, timber management, and recreational access
	Forest Pests	control of forest pests through forest management techniques, biological controls, and chemical controls
	Flood Damage Reduction	collection and dissemination of floodplain information, acquisition of floodplain lands, construction of flood control measures, and enactment and administration of codes and ordinances regarding floodplain land use
	Shoreland Regulation and Technical Assistance	collection, analysis, and distribution of shoreland use and information to the public and to federal, state, and local agencies regarding the physical and development character of lake and river shorelines; assist and supervise townships, counties and municipalities in the establishment and administration of local shoreland land use control programs for zoning, subdivision, building codes, and sanitary codes, and alterations of natural shorelands

Agency Responsible	Activity	Nature or Purpose of Activity
DNR	Water Surface Use Regulation and Technical Assistance	solve or prevent overcrowding problems and user conflicts from developing on the waters of the state and to protect the waters of the state by directing a state/local program of water surface use management including the development of statewide water surface use guidelines and standards
	Watershed Management	review water resources management and development proposals; advise and assist in local watershed management including public drainage systems and dam safety and maintenance problems; provide technical advice to the Water Resources Board, watershed districts, and soil and water conservation districts; develop policy, procedural guidelines and appropriate studies related to watershed management activities or water control facilities
	Water Resources Permits	(see permit listing)
	Soil and Water Conservation District	render planning and implementation service to all landowners requesting this service; includes soil surveying, planning best use for each acre of land, applying measures to the land such as contour cultivation, strip cropping, grassed waterways, terracing, improved wildlife management and planting the proper crops to the proper land
	Acquisition and Development of Fish Habitat	bring habitat areas threatened by destruction under the protection of public control either through acquisition of fee title or easement for specific fishery uses and restore or artifically replace missing features on waters where the habitat has deteriorated or critical elements have been lost
	Commercial Fishing	regulate commercial fishing activities to prevent over-exploitation of fish resources
	Acquisition, Protection, and Evaluation of Wildlife Habitat	protection of wildlife habitat through acquisition, easements, review of development projects, wildlife refuges, zoning, hearings, permits, legal actions and commissioner's orders
	Habitat Development and Maintenance	develop and maintain wildlife habitat to produce a sustained yield of wildlife resources
	Pollution Studies and Investigations	provide biological and related data on the effects of power plant heated discharges, other pollutional discharges and spills, and lake aging on fish and wildlife resources and to recommend measures for the protection of these resources

Agency Responsible	Activity	Nature or Purpose of the Activity
DNR	Land Sales	selling of land best suited for private development or land deemed surplus to the state
	State Land Exchange	investigation, appraisal, and processing of land exchange proposals as submitted by private individuals, corporations and public agencies to consolidate state, private, federal, and county land ownership for more efficient management and administration
	Land Acquisition	acquisition of land for parks and recreation areas; public access to rivers, streams, and lakes; habitat, food, and cover areas for wildlife; public hunting areas; forest management areas and to preserve fish spawning areas; natural and scientific areas; historic sites; etc.
	Acquisition of Park and Recreation Areas	acquisition by purchase or gift within existing state park areas for protection and preservation of the natural environment; includes reviewing, inspecting, selecting and proposing boundary expansions of existing state park areas or adding new park areas to the existing state park system
	Development of Park and Recreation Areas	construction, development, improvement, and rehabilitation of visitor use facilities
	Maintenance and Operation of Park and Recreation Areas	duties performed to keep recreational use facilities safe, clean, and enjoyable, such as mowing grass, grading roads, enforcement of rules and regulations, giving directions, cleaning toilets, garbage removal, etc.
	Acquisition of Forest Recreation Areas	land selected for its unusual beauty and other natural features located within an expanse of government land not only being managed for timber, game, erosion control, etc., but also for recreation
	Development of Forest Recreation Areas	involves planning and construction of campgrounds, day use areas, and trails
	Maintenance and Operation of Forest Recreation Areas	includes all duties necessary to keep forest recreational facilities safe, clean, and enjoyable, such as removal of hazardous limbs and fallen trees, policing, providing firewood, cleaning tables and toilets and treatment of the pits, repair and replacement of acilities, grooming snowmobile trails, grading of service roads, etc.
	Acquisition, Development, & Maintenance of Recreational Land Trails	acquisition, development, and maintenance of corridor, state forest, state park, and grant-in-aid trails to meet various kinds of trail needs throughout the state (hiking, backpacking, skiing, equestrain, bicycle and snowmobile)

Agency Responsible	Activity	Nature or Purpose of Activity
DNR	Acquisition of Canoe and Boating Route River Sites	acquisition of leases or use easements for areas to be developed for public recreational use on canoe and boating route rivers
	Development and Maintenance of Canoe/Boating Route River Sites	develop and maintain river-oriented recreational facilities, such as portages and primitive canoe campsites and the marking of hazards, points of interest, and recreation sites along canoe and boating rivers
	Acquisition, Development, and Maintenance of Public Access	purchase, develop, and maintain good quality public access on lakes and rivers (all lakes 150 acres in size and meandered are eligible for consideration as well as lakes under 150 acres in size if intensive fish management is to be carried out on them)
	Evaluation of Mineral Resources Potential	evaluation of mineral resource potential of state-owned mineral rights in order to establish exploration and development priorities and assist in land-use classification
	Mineral Leases	implement and regulate the exploration and development of state-owned mineral rights
	Acquisition of State Forests	acquisition of tracts within existing forests for recreational as well as timber production purposes
	Timber Harvest	(see permit listing)
	Management Plan Preparation and Maintenance	planning for multiple-use management of state land; includes such things as timber management, recreational management, management for aesthetic qualities, for air and water quality, wildlife habitat, etc.; plan design is for a 10 to 15 year period for a forest management unit
	Outdoor Recreation Planning	maintain state eligibility for federal Land and Water Conservation Fund Grants and provide direction and priorities for state and local actions in outdoor recreation programs; policies in the State Outdoor Recreation Plan serve as a basis for regional and state priorities of needs for outdoor recreation lands and facilities
	Water and Related Land Resources Planning	development of a framework plan for the development and management of the state's water and related land resources
	Land-Use Planning	provid optimum management of those lands under jurisdiction of the DNR through proper land-use classification, selection of management units, and interdisciplinary resource management planning

Agency Responsible	Activity	Nature or Purpose of Activity
Historical Society	Acquisition and Administration of Historic Sites	to preserve, restore, and interpret buildings and other structures, locales, sites, antiquities, and related lands which aptly illustrate significant events, personalities, and features of the history and archaeology of the state or nation
PCA	Solid Waste Pollution Control	*prepare state resource recovery plan *complete a statewide hazardous waste management plan
	Water Pollution Control	*issue guidelines for the on-land disposal of municipal sludges and for sludges from septic tanks and water treatment facilities *draft land application guidelines for the proper disposal of industrial effluents and sludges
	Water Quality Special Studies	*prepare a model wastewater facilities plan for small rural communities with a thorough examination of all alternatives presently available for improved wastewater treatment with emphasis placed on proper consideration of on-site residential sewage disposal *coordinate the development and operation of the statewide water quality management planning (208) effort and maintain coordination with inter agencies
	Air Quality Control	*an analysis of emission sources and development of control strategies for Duluth's air quality maintenance area *sampling and evaluation of taconite plant emissions *designation of boundaries for Class I air quality regulations in the vicinity of the coastal zone

*Short-range tasks (or sub-components) of an on-going activity (i.e., solid waste pollution control).

Agency Responsible	Activity	Nature or Purpose of Activity
DOT	Policy and Planning	development of the Mn/DOT/PLAN for all modes of transportation; plan will include a decision-making process, policies, improvement program and a financial needs assessment.
	Highway Development	to improve the condition of the physical structures that comprise the interstate and trunk highway system (primarily made up of the roadway and bridge system, also includes buildings, rest areas, and weigh stations)
	Maintenance and Operations	to keep the highway system in a condition that permits safe and efficient travel and protected from physical deterioration which would shorten its useful life; operations include snow and ice control, signing, paint striping, maintenance of safety barriers; physical deterioration of the facility is prevented through patching, crack filling, overlays, bridge painting and deck repair, shoulder and ditch repair, and maintenance of buildings and rest areas
	Airport Development and Assistance	assures that all aeronautical development is preceded by sound planning, is included in an aviation system plan, is well designed in accordance with current state and federal standards and will be properly maintained
EQB	Power Plant Siting	to provide for power plant site and transmission line route selection while minimizing adverse human and environmental impacts and maximizing public participation. This includes the development of procedures and criteria for siting and routing and the development of an inventory of large electric power generating study areas.

PART III - LOCAL

A. Monitoring Process

PROPOSED MONITORING PROCESS FOR LOCAL GOVERNMENT

A basic requirement of the Coastal Zone Management Act concerns the capability of a state to ensure that actions taken in the Coastal Zone are consistent with the approved Coastal Zone Management Plan. A state must have the legal authorities to both monitor actions and require consistent actions at the state and local government levels.

The CZM-Policy Advisory Committee (CZM-PAC) took action on July 7, 1977 to approve an organization and authorities diagram which outlined basic responsibilities for monitoring actions, amending the CZM plan, administering the program, etc. One component of the overall monitoring process is the examination of local actions to insure consistency with the CZM Plan. Arrowhead Regional Development Commission (ARDC) has been identified as the agency responsible for monitoring local actions and plans for compliance with the CZM plan, and to coordinate local comments to EQB on consistency of state and federal activities. The discussion which follows will address ARDC's role and responsibilities in a local monitoring process, outlines the types of local actions which will require monitoring, and describes the procedures to be followed in monitoring various activities. It should be noted that the information contained herein is for discussion purposes and is a proposal subject to revision.

A. Role and Responsibilities of ARDC in a Local Monitoring Process

Under the auspices of the Regional Development Act of 1969, ARDC has played a role of conducting area-wide planning, research, and review for the seven-county area of Northeastern Minnesota. The Commission has two basic review authorities. Pursuant to the federal Intergovernmental Cooperation Act of 1968, the Office of Management and Budget issued Circular A-95 which

outlines the rules and regulations governing the formulation, evaluation and review of federal programs and projects in terms of impacts on area and community plans. ARDC is identified as an A-95 "regional clearinghouse" responsible for reviewing federal actions and applications for federal grants and loans in the Arrowhead Region. Paralleling the Federal mandate, the State of Minnesota, through the Regional Development Act of 1969, requires ARDC to review state and federal programs, and applications for grants and loans from state and federal agencies. Also, ARDC is responsible for reviewing local government and independent agency comprehensive plans or other matters which have a substantial effect on regional development. In essence, ARDC has in place, the legal authority to monitor and review local actions and plans in the Coastal Zone. It must be recognized that ARDC's review role is strictly advisory and cannot be regulatory in any manner.

ARDC envisions a number of responsibilities in a local CZM monitoring process. As part of ARDC's ongoing review function, we would conduct A-95 reviews of local grant and loan applications for federal and state funds as well as continuing to review all local and independent agency plans. In addition, under the Coastal Zone program ARDC would be responsible for monitoring local land use activities in the Coastal Zone, interpreting inconsistent actions, and attempting to resolve conflicts in an advisory capacity. Other responsibilities will include providing local units of government with information and analysis regarding state and federal actions as well as coordinating local comments on those actions for Environmental Quality Board (EQB) review.

B. Process for Monitoring Local Actions Requiring A-95/PNRS Review

In accordance with OMB Circular A-95 rules and regulations and the requirements of the Regional Development Act of 1969, ARDC has designed and is operating a regional review mechanism. The following is a detailed

discussion of the Project Notification and Review System (PNRS) procedures:

Whenever a local unit of government, or state or federal agency intends to apply for federal or state aid or adopt a plan in the region, the applicant must notify ARDC of the intended action. ARDC has developed what is referred to as a PNRS Form 100. The form 100 is completed by the applicant and provides basic background information on a proposed action. ARDC, upon receiving a completed Form 100 responds within twenty-four (24) hours with a letter indicating the date of notification, project number, staff person assigned to review the project, and a date when final review comments will be forwarded on the project. In addition, at the same time the applicant is notified, ARDC contacts the State Planning Agency (State Clearinghouse) to ensure that proper Regional-State coordination is maintained in the PNRS system.

Once the Form 100 has been received and acknowledged, ARDC begins the formal review process. The staff person assigned to the project will identify appropriate government units, agencies and organizations and notifies them of the intended action within forty-eight hours. All notified government units and agencies are given ten (10) days to respond with their comments on the application. After comments have been received, the staff person (Project Review Officer) will determine if there is a need to hold a conference to discuss the project application in greater detail or prepares final comments. The conference determination is based on the responses of agencies affected and the Project Review Officer's own knowledge on how the project fits into the overall plans of the region, or how it may affect the region.

Assuming no conference is required, the Project Review Officer has eighteen (18) days to complete final review comments on the application and notify the applicant of the review by ARDC. Final comments address themselves to, or include information about:

1) The extent to which the project is consistent with overall planning for the state, region or locality

2) The extent to which the project contributes to the achievement of state, regional, and local objectives

3) In the case of a project for which assistance is being sought by a special purpose unit of government, whether the unit of general local government within the jurisdiction of which the project is to be located has applied or plans to apply for assistance for the same or similar type project

If conflicts concerning the review of a project do develop, several mechanisms exist to deal with the problems. For example, if a project is being reviewed by an affected local government unit and they require additional review time over and above the ten (10) day allotment, the deadline can be extended a maximum of fifteen (15) days. In addition, if it is determined that further discussion of the project is necessary, the Project Review Officer may conduct a conference. The purpose of the conference would be to identify and resolve questions, issues, conflicts and mutuality of interests. Conference procedures for notifying affected agencies, government units, the applicant and general public are outlined in the PNRS guidelines. Essentially, the ARDC Board of Directors are contacted, the conference date, time and location is set, affected interests and the general public are notified ten days prior to the conference, and a verbatim transcript of the conference is kept as a record on file. Following the conference, a written report is prepared for the ARDC Board and a decision made on ARDC's final review comments. (It should be noted that ARDC has a standardized PNRS reporting format comprised of various forms, letters and filing procedures. This information is available at ARDC).

The Project Notification and Review/A-95 System has proved to be a very useful tool in coordinating various grant program requests and plan reviews in the Arrowhead Region. What the PNRS system fails to address is specific local land use decisions. In order for ARDC to monitor local land

use actions for consistency in the Coastal Zone, another process will need to be devised.

C. Process for Monitoring Local Land Use Actions in the Coastal Zone

Presently, the Minnesota Department of Natural Resources (DNR) reviews major local land use actions which occur within 1000 feet of all lakes and 300 feet of all rivers and streams in Minnesota. DNR has the authority to examine these actions and provide recommendations to local government units concerning proposed activities. It should be recognized that DNR does not have the authority to change or mandate a particular local land use decision in a shoreland area. However, if an undesireable local land use decision is made, DNR can use the courts to resolve an issue.

As the local CZM monitoring agency, ARDC would need to examine proposed land use actions in a similar manner to DNR. A major difference in the two processes is that ARDC would work very closely with local units of government to analyze and resolve conflicts prior to state, CZM-PAC or court involvement. Interaction and coordination are key elements in ARDC's proposed process in which ARDC would monitor local land use actions in the Coastal Zone. Once again, it is important to note that the information contained herein is for discussion purposes and is a proposal subject to review and revision.

As a first step in the monitoring process, ARDC would identify a staff person responsible for monitoring local land use actions. The staff person's duties would include attending various local North Shore planning commission meetings, instituting the standardized land use permit application in those areas that are not presently using the format, monitoring local land use permit and subdivision actions and identifying potential problems or inconsistent actions, analyzing and preparing position statements on suspected actions, informally resolving conflicts, and providing staff support for the local CZM Policy Advisory Committee. In addition, this person would also be

available to work with local government units providing technical planning assistance.

Once a staff person has been assigned, meetings would be held with the counties and municipalities to discuss application and uses of the standardized land use permit process. The land use permit forms are designed to be computerized and can provide a variety of land use information for planning and other purposes. Use of the standard land use permit reporting format would provide easy access to permit action information in the Coastal Zone, and would also assist local planning commissions and zoning administrators in their understanding of the types and characteristics of land use actions taking place in their respective areas. At the present time, St. Louis, Lake and Cook Counties use the standardized permit form and each may receive computerized results from ARDC on a monthly basis. From the onset, a major work task would be to introduce the land use permit forms to municipalities and coordinate the overall reporting procedure.

With the standardized permit reporting process operational, ARDC would be in a position to begin monitoring permit proposals. Staff would examine all permit and subdivision proposals within the Coastal Zone to identify any potential inconsistencies with the CZM plan. ARDC would work very closely with Zoning Administrators and Planning Commissions to resolve conflicts prior to formal local decision making on an action. ARDC's interpretation of a potential inconsistent land use action would be strictly advisory subject to the discretion of the local decision making body.

If a potential land use inconsistency is determined, the following procedures would be followed by ARDC. A telephone call would be made to the zoning administrator to apprise him of the potential inconsistent action and discuss the issue. If ARDC still feels that the potential action is inconsistent with the CZM plan, a letter explaining the potential land use inconsistency would be forwarded to the local unit of government and State Planning

Agency. ARDC would then begin developing advisory comments outlining the rationale for the inconsistency interpretation. References would be made to pertinent sections of the CZM plan and if necessary, additional meetings would be held with the zoning administrator and/or whomever may be affected. ARDC would compile information and prepare formal advisory comments for submission to the planning commission prior to a decision on the land use action. ARDC would also be on hand at the planning commission meeting to explain the comments and respond to questions. The results of the decision and comments by ARDC would be forwarded to the State Planning Agency for any further action.

This procedure is designed to allow early warning of any potential land use inconsistencies and makes professional planning expertise available to discuss the issues, and ameliorate potential problems prior to a formal decision by a local government unit. In order for this process to function in a timely manner, close cooperation and coordination will need to be maintained between ARDC and local North Shore governments. In the long run, local decision making will be strengthened, and coastal management planning implemented with minimum involvement of state and federal government.

D. Identification and Reporting of Inconsistent State and Federal Actions in the Coastal Zone

A final responsibility of ARDC will be to solicit, coordinate and report local comments on state and federal actions considered to be inconsistent with the CZM plan. The ARDC staff person responsible for monitoring local land use actions would also be charged with coordinating local comments on inconsistent state and federal actions in the Coastal Zone.

It should be noted that State Planning is the agency responsible for monitoring all state agency actions, and individual state agencies monitor appropriate federal agency actions for consistency. However, there needs to be a process whereby local units of government can report actions they feel are inconsistent with the CZM plan. ARDC would serve the function

of soliciting, coordinating, and reporting local comments on any state or federal actions considered to be inconsistent with the CZM plan. The following discussion outlines the basic procedures to be followed in a review and reporting process.

ARDC would be able to identify and report potential state or federal inconsistent actions in two ways: First, the A-95 project notification and review process presently acquaints ARDC with many of the state and federal actions taking place in the region. In essence, ARDC would be notified of any state and federal actions in the Coastal Zone. As you will recall, under the A-95 review process, ARDC notifies local units of government affected by a proposed action, solicits comments and prepares final review comments on actions. The A-95 review process is operational and should be effective in the identification of suspected actions.

A second method to be used to identify inconsistent state and federal actions would be to have a local unit of government contact ARDC directly. In this instance, ARDC would examine the proposed action, discuss the issue with the local government unit and take appropriate action.

If it was determined that a state or federal action may be inconsistent with the CZM plan, ARDC would notify all local government units along the North Shore and State Planning Agency by letter. The letter would explain the action to be taken and request comments. Once all comments have been received, ARDC would prepare a statement for submission to the Environmental Quality Board (EQB), charged with handling state and federal inconsistency actions.

Whichever method is used, ARDC and local government units along the North Shore will be apprised of any inconsistent state or federal action and will have an opportunity to comment on the proposed action. ARDC would coordinate comments and notify the Environmental Quality Board in accordance with the procedures outlined in the CZM plan.

SUPPLEMENT 2

Supplement to Chapter 4, GAPCs

COASTAL ZONE MANAGEMENT

C. Funding

Federal funding for GAPC programs will be provided at the same matching proportion as funding for the overall CZM program. Eighty percent of the total costs for GAPC planning will be paid with federal funds. The remaining twenty percent of the costs must be borne by the state, by the locality, or by combining of funds from these two sources. It is not necessary for the local share of the cost for GAPC programs to be in actual dollars, however. The local match can also be provided through in-kind services. In-kind services can be provided through various methods such as dedication of employee services to the planning program; by providing office space or clerical assistance for the planning meetings; by providing office equipment to develop GAPC program documents, etc.

Coastal Zone Program funding may be applied for costs incurred by the local unit of government after the site has been designated as a GAPC by the PAC. Funding is available primarily for planning efforts and to cover the cost of developing studies. Section 315(2) of the CZM Act provides matching funds for acquisition of public access to public beaches and other public coastal areas of environmental, recreational, historical, aesthetic, ecological, or cultural value, and for preservation of islands. Coastal Zone funding may also be applied to salaries of personnel who are involved in the implementation of the plan (e.g. the local zoning administrator). Personnel for maintenance of a GAPC site may also be hired with Coastal Zone monies.

Coastal Zone Program funds may not be used for construction purposes at this time.

Overall federal funding for the Minnesota Coastal Zone Management Program under the present legislation can continue for a five year implementation period after the Minnesota CZM plan is approved.

D. Steps in Developing Plans for GAPCs

1. When designation of a GAPC occurs, the governing body of the political unit(s) in which the GAPC is located will be notified. In addition, all public agencies which have management authority or responsibility for the site will be identified and contacted. The governing body will be asked to formally sponsor the GAPC planning program for each GAPC within its jurisdiction. To sponsor a GAPC, the governing board must have management authority over the nominated area; endorse the nomination of the area for GAPC designation; agree to be involved in the planning for the GAPC when/if designation occurs; and make a commitment to carry out the plan that is developed for the GAPC. Involvement by the governing body in the actual planning for the GAPC can take place in the form of the body designating an individual who is a member of the governing body or an administrative department as the governmental unit's representative on the planning group established for the GAPC. In addition, the governing body involved will review all planning products that are developed for each GAPC, suggest revisions and submit the documents to the lead agency/ Policy Advisory Committee for final approval.

2. Formation of a Planning Group by Local Unit of Government

   a. The sponsoring unit of government will form a Planning Committee for each GAPC. If several GAPCs of a similar nature are within the local governmental jurisdiction, one Planning Committee could be formed to address all GAPCs of the same class. Representation on the GAPC Planning Committee will be determined by the elected governing body of the sponsoring unit of government. The governing body may find it desirable to utilize existing experience by seeking representation from the local planning commission to be on the GAPC planning Committee. Staff from the sponsoring unit of government can also be represented on the Committee. The size of the GAPC Planning Committee may vary up to ten members. The governing body should determine a chairperson for the Committee who will have responsibility for chairing the meetings and communicating developments to the governing body.

The chairperson will also be responsible for maintaining communication with consultants that have been contracted with for studies on the GAPC and for ensuring that plan elements are completed as scheduled. All governmental units and agencies which have been notified previously will be invited to select a representative who will act in an advisory capacity to the planning committee for that individual Public Agency. These representatives can benefit the GAPC planning effort by providing technical advice to the GAPC Planning Committee. A staff planner from the Arrowhead Regional Development Commission will also be available to work with the planning committee. The State Planning Agency will review products as they emerge from the planning process for consistency with adopted Minnesota CZM policies, and will suggest necessary revisions that will bring each GAPC program into conformance with these policies. Ultimate responsibility for development of the GAPC plan will lie within the local unit of government in which the site is located with two exceptions:

(1) The first exception occurs if the local unit of government is offered the opportunity for, but declines primary responsibility. In this case a negotiation process will be entered into with residents from the proposed area and the local unit of government.

(2) The second exception occurs if the site is owned publicly or is proposed for public ownership. In this case, the public agency or unit of government now owning or proposing to acquire the land would be responsible for development of the plan. In any case, however, a Planning Committee should still be used to develop actual recommendations. The local unit of government involved (municipal, township, or county) will review all functional elements of the GAPC planning program, suggest revisions, and submit the final work program and plan to the Policy Advisory Committee for final approval.

3. Establishing Management Policies for the GAPC

   a. Once established, the first duty of the GAPC Planning Committee will be to develop a set of management policies for the GAPC. The planning group should assess the policies which have been adopted for the overall MCZM Program by the PAC as management policies for the GAPC are being formulated. Along with preparation of the management policies, the planning group will also develop a set of tasks or a work program which need to be accomplished to achieve the management policies. If additional work such as consultant or engineering studies or architectural design work are envisioned as part of the necessary tasks for accomplishing the management policies for the GAPC, this should be addressed in the work program and an estimate of the costs involved should be addressed in the work program and an estimate of the costs involved should be included.

   b. The management policies and work program will be submitted to the appropriate local unit of government for its review. The local unit will suggest any revisions it deems desirable. The management policies and work program for the GAPC will then be submitted to the lead agency for PAC review and approval.

4. Policy Advisory Committee Approved Management Policies and Work Program, Planning for the GAPC Begins

   With PAC approval of the management policies and work program for the GAPC, the GAPC Planning Committee will address their efforts towards accomplishing the work task contained in the work program. Following are two hypothetical examples of GAPC planning programs:

   a. TYPE: Developed site in an unincorporated area that is experiencing problems with sewage contamination of both ground water supplies and of streams tributary to Lake Superior. There are development proposals that would result in more residences being constructed in the community.

      DESCRIPTION: This site consists of approximately 400 residences, a few commercial developments and a marina situated on Lake Superior, all within a townsite that has been lived in for more than sixty years. The townsite includes a portion of a river which has substantial sport fishing activity during upstream spawning migrations of rainbow trout from Lake Superior.

All residences in the townsite have individual on-site sewage treatment systems. Some systems are failing due both to age and to the geologic limitations for successful operation of the systems which predominate in this vicinity. Some residents are interested in studying the feasibility of getting a sewage collection and treatment system to service the entire community. Because of the marina and sport fishing resource within the community, there have been development proposals to construct condominium-type seasonal residences in the townsite. Some residents do not look favorably on such proposals because of a stated desire to maintain the present character of the community.

PLANNING GROUP: The county zoning administrator, the county health officer, a county board member, and interested residents could make up the Planning Committee for this GAPC. The State Department of Natural Resources and the Pollution Control Agency would be contacted and asked to provide assistance to the local planning effort. In addition, a planner from ARDC would be available to assist in the planning efforts.

PLAN FINANCING: Apply for an initial planning grant to the lead agency under Section 305 or Section 305½ of the Federal CZM Act.

HYPOTHETICAL RECOMMENDATIONS OF THE PLANNING GROUP:

1) The county should apply to the state for CZM funds to contract with a consultant to do a detailed study for development of a comprehensive plan and amended zoning regulations for the townsite.
2) The county should apply for CZM funds to contract with an engineering consultant to do a feasibility study for a sewage collection and treatment system to serve the local population.
3) The county should apply for CZM funds to contract with an architectural firm to do detailed design studies for development of a river-oriented park within the community that would compliment existing commercial developments.

b. TYPE: Land to be acquired for waterfront beach park.

DESCRIPTION: This is a 300 acre site with lake access. The land is in both county and private ownership. The county would like to acquire the land on which to develop a park with a nature center and a marina. There are no improvements currently on the site. A special turn lane from the nearby state highway might be required to handle the increased traffic into the area. The land is presently zoned Residential-1.

PLANNING COMMITTEE: The county zoning administrator, member of the county board, member of the county park board, and local citizens. The State Department of Transportation, the State DNR could be asked to provide technical advise to the GAPC planning program.

PLAN FINANCING: Apply for an initial planning grant under Section 305½ of the Federal CZM Act.

HYPOTHETICAL RECOMMENDATIONS OF THE PLANNING GROUP:

1) No rezoning is necessary since a county-owned park is a permitted use in the Residential-1 zone. However, special efforts should be made to screen the boundaries of the park, by leaving or planting a buffer of vegetation, so that park activities and neighboring residential developments do not interfere with each other.
2) The county should apply to the state for CZM funds to hire a consultant to do detailed site planning and architectural design of the park facilities.
3) The county should apply for 50% federal matching funds under Section 315(2) of the Federal Coastal Zone Act which provides funds to acquire public beach access. In addition, another 20% of the cost might be financed by the Upper Great Lakes Regional Commission. Additional funding could also be sought from the Minnesota Iron Range Resource and Rehabilitation Board (IRRRB).

4) The possibility should be explored that CZM funding might also be used to hire a park administrator.

The above examples are intended to provide some insight into how the GAPC part of the Coastal Zone Management Program might operate. Again, depending on the individual situation and the members of the planning group, the recommendations that they make might be quite different. There are often a range of feasible alternatives that might apply to each site. Again, it is up to the local governmental unit or state agency, after evaluating the technical recommendations of the planning group, to decide on the content of the GAPC plan.

5. Periodic Review of Planning Progress

The planning program for each GAPC will undergo a review by the lead agency/PAC at six month intervals to ascertain whether significant progress is being made. Six months after PAC approval of the management policies and work program for the GAPC and at six month intervals thereafter, all documents which have been produced will be submitted to the lead agency/PAC. If the lead agency/PAC determines from their review that significant progress has not been made, it shall make recommendations towards this end within thirty (30) days after receiving the documents. If significant progress is not made after ninety (90) days have elapsed from the time lead agency/PAC recommendations have been made, the lead agency shall terminate funding for the GAPC.

6. After GAPC Management Plan Completion

One of the requirements for the GAPC planning process described herein is that a public agency or unit of government must sponsor and participate in the process. In addition, the agency or unit of government is required to have authority to carry out the policies which are developed for the GAPC, and is further required to indicate a willingness and intention to carry out the management policies prior to initiation of the GAPC planning process. The implications of management planning for a GAPC vary according to the management policies or objectives which apply in each case. Federal funding is available

for GAPC planning and implementation of the GAPC plan when it is completed. In a situation where the GAPC is a historic site, the implementation may take the form of hiring an employee who will be responsible for administration and general maintenance of the site. If the GAPC is a developed area that is confronted with pressure for development that would result in conflicting land uses, implementation can be in the form of hiring additional personnel to enforce the local zoning ordinance or setting up an on-going planning council to address local development issues and to revise the zoning ordinance. The implementation measures can be as diverse as the rationales for establishing the GAPCs.

A site will remain a GAPC as long as CZM program funds are being expended for that particular site.

SUPPLEMENT 3

Energy Facility Planning Process

COASTAL ZONE MANAGEMENT

ENERGY FACILITY PLANNING PROCESS

INTRODUCTION

A. Energy Requirements of the Coastal Zone Act

The Coastal Zone Management Act requires that each state must include in its coastal zone plan "a planning process for energy facilities likely to be located in, or which may significantly affect the coastal zone, including, but not limited to, a process for anticipating and managing the impacts from such facilities." 305(b)(8)
This process must include the following five elements:

1. An identification of energy facilities which are likely to locate in, or which may significantly affect, the coastal zone;
2. A procedure for assessing the suitability of sites for such facilities;
3. Articulation of state policies and other techniques for the management of energy facilities and/or their impacts;
4. A mechanism for coordination and/or cooperative working arrangements, as appropriate, between the state coastal planning or management agency and other relevant state, federal, and local agencies involved in energy facility planning and/or siting, including conformity of siting programs, where they exist, with the coastal zone management program; and
5. An identification of legal and other techniques that can be used to meet management needs.

In addition, the Act is also explicit as to which energy-related facilities must be addressed. Figure 6 on page S124 shows how Minnesota will meet federal coastal zone requirements for these energy-related facilities.

B. Benefits of the Process

After developing a planning process which addresses energy-related facilities in or near the coastal zone, Minnesota will qualify for financial assistance from the Coastal Energy Impact Program to help its coastal communities affected by new or expanded coastal energy activity. Assistance can take four forms: planning grants to prepare for on-coming energy activity and for its socio-economic and environmental consequences; financial assistance for new or improved public facilities and new or increased public services required because of new or expanded coastal

energy development; repayment assistance to the borrowing government when it cannot meet its credit obligations because actual revenues from the coastal energy activity are insufficient; and grants to help prevent, reduce, or repair damage to valuable environmental or recreational resources when the person responsible for the damage cannot be identified or cannot be charged for the damage.

C. Work Program for Energy Facility Planning

In order to develop the planning process required by the CZM Act, a work program was developed in June 1977. The list below outlines the steps of the work program and indicates which section of the Energy Chapter addresses each element of the work program. Elements 1-5 have been completed, while 6-8 remain to be done during the implementation phase of the coastal zone plan.

Work Program Elements	Section
1. Determine what needs to be done to meet the requirements for the 305 portion of the program.	Energy Requirements of the Coastal Zone Act
2. Determine whether there is a need to locate any additional energy facilities in, or significantly near, the coastal zone.	Power Plants - Numbers and Location; Other Energy-Related Facilities - Numbers and Location
3. Determine what Minnesota already has to offer in planning and managing for energy-related facilities.	Existing Management Controls
4. List locational requirements of needed or expected energy facilities.	Site Requirements/Impacts
5. List anticipated impacts that can be expected by locating various energy facilities in, or significantly near, the coastal zone.	Site Requirements/Impacts
6. Identify those areas within the coastal zone that fit the locational requirements listed in No. 4.	To be done during coastal zone implementation
7. Based upon expected impacts, state and national interests, suggest: a. which facilities could be located within the coastal zone; b. which facilities should be located outside the coastal zone.	To be done during coastal zone implementation

8. Develop policies, guidelines and performance standards for the location and operation of energy facilities.	To be done during coastal implementation

D. Energy Chapter Format

The Energy Chapter is organized so that certain sections meet certain federal requirements. Refer to the chart below for easy reference.

	Requirements				
	1	2	3	4	5
Section					
Power Plants- Numbers and Location	x				
Other Facilities- Numbers and Location	x				
Existing Management Controls	x	x	x		x
Coordinational Network				x	

SECTION 1:

Power Plants-Numbers
and Locations

SECTION 1: POWER PLANTS -- NUMBERS AND LOCATION

The issue of how many additional power plants will be needed in Minnesota depends on future statewide and regional demand for electrical energy and on energy policy set by Minnesota, other states and Canada. The issue of where power plants will be located and what type will be built* is contingent on availability of large quantities of water and air quality considerations.

A. Statewide Supply and Demand

Statewide as well as regional demand for electrical energy will determine the need for future power plants in northeastern Minnesota and the coastal zone.

In 1976, Minnesota's total electrical capacity was approximately 7,100 MW. The location of existing power plants over 50 MW in size is shown in Figure 1. Currently, power plants in the state meet approximately 88% of Minnesota's electrical energy requirements. Three power plants exist within Minnesota's coastal zone, serving both local needs and mining needs. If demand for electrical energy increases, it is doubtful these plants would be expanded, but rather electrical energy would be purchased from Minnesota Power and Light Company and United Power Association.

Predicting the demand for electrical energy in Minnesota requires examination of the "total energy" picture. In 1976, electrical energy contributed 9.5% and oil and natural gas, approximately 86% of the total amount of net energy used in Minnesota. Coal and wood contributed the remainder. The Minnesota Energy Agency projects that by the year 2000 only 2/3 as much oil and 1/2 to 2/3 as much natural gas will be available in Minnesota as was available in 1975. The shortfall of oil and natural gas will be mitigated by conservation and will be replaced in part by electrical energy or synthetic fuels (such as

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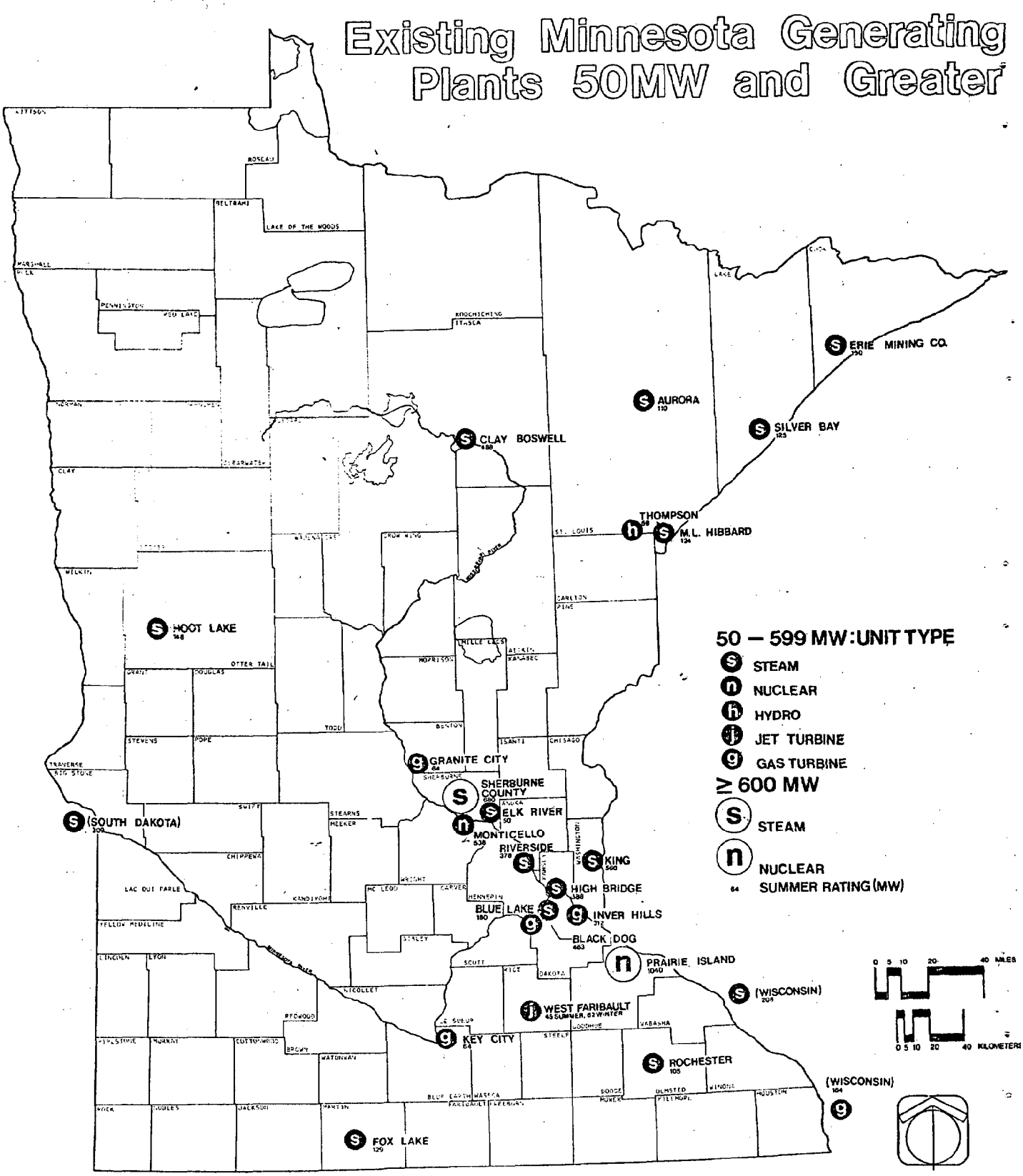
*Discussion of power plants is limited to coal-fired and nuclear plants since these will be the most prevalent types of plants built between now and the 1990s due to economic and technological considerations.

FIGURE 1



FUTURE ELECTRICAL ENERGY RESOURCE DEMANDS

SOURCE: MINN. STATE PLANNING AGENCY

those produced by coal gasification plants). For purposes of this discussion, we are assuming electrical energy will be substituted for oil and natural gas.

From 1960 through 1973, total energy use in Minnesota has grown at a rate of slightly greater than 4% per year. If this growth rate continues over the next 25 years, the demand for total energy in Minnesota will be two and one half times as large as it was in 1975. This could result in demand for 70,000 MW of additional electrical energy by the year 2000, if we assume a continued annual growth rate of 4% for total energy demand, and substitution of electrical energy for shortfalls of oil and natural gas. However, the Minnesota/ Wisconsin Power Suppliers Group in its recent 15-year forecast predicted a net growth in electrical demand of only 9,200 MW for a total demand of 16,300 MW by 1990. This prediction assumed growth in energy demand can be curtailed and electric load management programs implemented.*

In an attempt to understand the differences in these two estimates, three scenarios are presented. These scenarios do not include all possible alternatives nor do they predict the probability of occurrence for each alternative.

The growth of total energy use depends on public attitudes. Assume for sake of argument that the total energy growth rate in Minnesota can be checked and that demand will be the same in the year 2000 as it is today. This is reasonable since: 1) energy substitution for labor will slow or cease, 2) economic trade-offs of substituting energy for labor is quickly approaching equality, 3) air conditioners and televisions are reaching the saturation point, and 4) amount of energy consumed per capita will decrease because of conservation programs. If the growth in demand for total energy is checked, the growth in demand for electrical energy will be caused by substitution for oil and natural gas. The three scenarios discussed below reflect the same demand for electrical energy as today, but assume different rates of substitution of electrical energy for oil and natural gas.

*Power plants are built to meet peak demand. Load management is a way of "leveling" out the demand peaks.

Scenario 1 -- Assuming a reduction in total energy proportion of 30% for oil and natural gas to be replaced by electrical energy, the proportion of total energy use supplied by electrical energy would be about 40% while oil and natural gas would drop to just less than 60%. This would mean that we would have a demand for about four times existing demand (7100 MW) or 28,400 MW of electrical energy.

Growth Factor — Growth in MW to 2000

4X - 28,400 + 4,200[a] = 32,600 - 7,100[b] = 25,500

Scenario 2 -- This scenario closely parallels the prediction made by the Minnesota/Wisconsin Power Suppliers Group. In this case, electrical energy would still substitute for oil and natural gas; however, total demand for oil and natural gas would be lower than in Scenario 1, therefore less additional energy would be required for substitution.

Growth Factor — Growth in MW to 2000

3X = 21,300 + 4,200[a] = 25,500 - 7,100[b] = 18,400

Scenario 3 -- This scenario can be interpreted several ways. Either electrical energy would absorb more (>30%) of the curtailment in natural gas or oil or absolute demand for electrical energy would grow considerably during the next 25 years or a combination of both would occur.

Growth Factor — Growth in MW to 2000

6X = 42,600 + 4,200[a] = 46,800 - 7,100[b] = 39,700

Translating demand into the numbers of power plants needed by the year 2000 yields the following estimates:

Growth Factor	Growth in MW	# of 1,600 MW Facilities	
		All Coal Fired	or 2/3 Coal/1/3 Nuclear
3X	18,400	12	8C/4N
4X	25,500	16	11C/5N
6X	39,700	25	17C/8N

[a] 4,200 MW will probably be replaced by the year 2000 for those plants built prior to 1965

[b] existing generating capability in 1976

The assumptions in developing these scenarios are:

1. Coal will most likely be the major fuel for electrical power generation.

2. Nuclear fuel technology will play a subordinate role as an electrical generation fuel

3. Alternative sources of fuel such as the sun or wind will not yet be feasible for power plants.

4. Power plants will be built in size increments of 800 or 1,600 MW.

5. All electrical power generation to meet predicted demand will take place within Minnesota. Energy sharing between utilities by transmission of energy across state and international boundaries will be necessary primarily during peak periods of demand.

B. Northeastern Minnesota Supply and Demand

In Northeastern Minnesota, demand for electrical energy is expected to grow at 8-10% annually for the next 10-15 years, dropping to 5-6% by the year 2000. Minnesota Power and Light Company, which supplies over 90% of the electricity sold to the mining companies in the region, bases its forecasts on two major assumptions:

1. Mining will continue to be an economically viable industry with continued expansion in taconite and eventual development of copper-nickel mining.

2. The standard of living will continue to grow, use of energy will grow because of this and electrical energy will maintain its present share of the market.

These assumptions allow for expansion of industrial growth based on specific information obtained from industrial customers, national studies of the mining industry, and use of historically based trends to project commercial and residential loads. Projections of industrial demand are based on direct communication with large industrial customers and national studies of the mining industry. Projections of residential and commercial demand are based on analysis of historical trends. The major portion of load growth will be contributed by mining expansion and development. Only moderate growth is expected in the commercial and residential sectors which will expand to support the industrial growth.

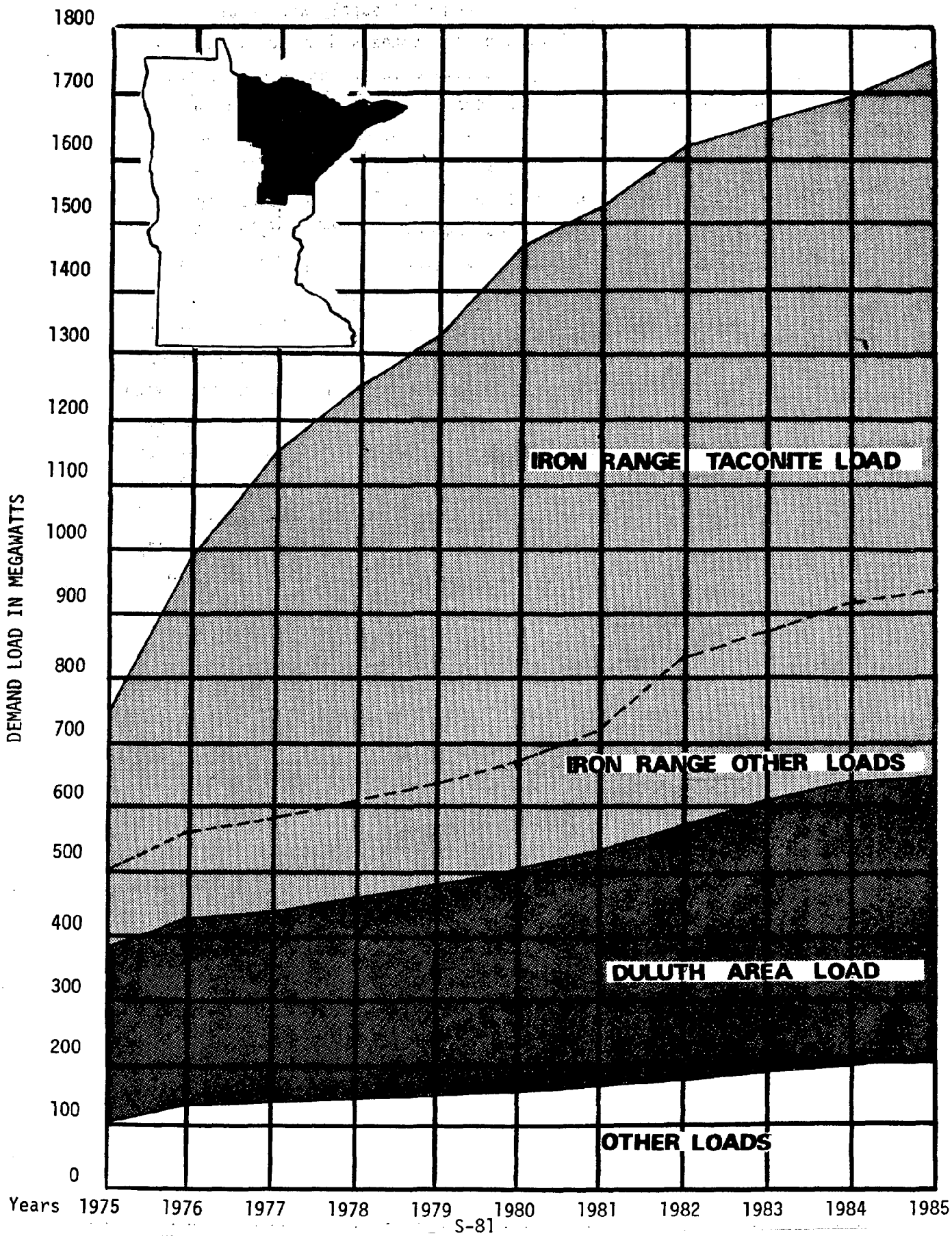
Peak demand in northeastern Minnesota during the summer of 1976 was approximately 1,000 MW. The Minnesota Energy Agency projects by 1985 that this demand will be close to 1,700 MW and by 1990, 2,000 MW. This increase in demand reflects the growth in taconite mining and accompanying secondary and tertiary development. The estimates given here may be conservative because the projections do not include the substitution of electrical energy for oil and natural gas, or the possibility that copper-nickel mining may occur. (See Figure 2)

Estimates of regional demand must be translated into estimates of additional power plant requirements. Four to six additional 800 MW power plants may be required in northeastern Minnesota by the year 2000. The larger estimate assumes the development of copper-nickel mining and taconite mining.

Existing generating capacity in northeastern Minnesota is 850 MW. No existing power plants in northeastern Minnesota are scheduled for retirement by the year 1990. However, two new power plants are proposed to be operational before 1990: one 500 MW plant near Grand Rapids (Clay-Boswell Unit #4) to be in service by 1980 and one 800 MW plant at Floodwood to be in service by 1984. Both Clay-Boswell and Floodwood are outside the coastal zone. The Energy Agency projects that another 800 MW plant will be necessary by 1990 to serve the increased load growth in northeastern Minnesota, and to replace planned reductions of electrical energy imported to the area. Long-range requirements may mean construction of two to four additional power plants in addition to the Clay-Boswell and Floodwood facilities.

After the four to six additional plants are operational, growth in demand is expected to drop as taconite mining begins to peak and copper-nickel mining reaches maturity. However, the power plant scenario, as with the regional demand predictions, does not consider the substitution of electrical energy for oil and natural gas. Consequently, the number of power plants needed for development in northeastern Minnesota could be greater than the estimates presented here.

FIGURE 2
SYSTEM LOAD FORECAST 1975-1985
60 MINUTE COINCIDENT DEMAND IN MEGAWATTS
ADJUSTED FOR LOSSES



C. Policy Options

In addition to statewide and regional supply and demand, energy policy set by the state, other states and Canada could have significant effects on energy facility development in Minnesota. The Canadian government must approve the sale of power from its hydroelectric facilities to utilities in Minnesota. Decisions made by other states on energy facilities outside Minnesota affect the state's ability to import power, as well as the necessity to export power to other states. For example, if the proposed Tyrone Energy Park is not built, additional generating capacity may be built in Minnesota to satisfy demand in Wisconsin.

Increased coal development in the Northern Great Plains States of North Dakota, Wyoming and Montana will affect energy development in Minnesota. Until recently, western coal was not competitive with eastern coal because of its lower Btu content and greater distance from most consuming centers. However, the higher sulfur content of most eastern coal has caused coal consumers to look west for cleaner low sulfur coal. The high capital costs of underground coal mining has increased the demand for western coal which can be strip-mined. More stringent mine-safety regulations continue to raise the cost of production and have given western coal a competitive advantage depending on the location of the consuming center. Western coal will be mined in the Northern Great Plains for export to other states, including Minnesota.

Western coal may be exported as solid fuel, or converted to gas or electricity. The environmental impacts of coal use on the Northern Great Plains and Minnesota depend on the form in which coal is exported. For example, the impacts of rail traffic and coal slurry pipelines on land use and water use are very different. Several generating plants are proposed in North Dakota to product electricity from lignite for export to Minnesota. The people of North Dakota will suffer the impacts of both mining and electrical generation, while the people of Minnesota will face the impacts of additional transmission lines. The form of coal energy delivered to Minnesota will affect the

state's requirements for additional generating plants.

There are too many uncertainties in supply and demand scenarios, and developing energy policy to make accurate predictions of additional generating plant requirements. However, we can examine the environment of northeastern Minnesota to understand how it will be affected by additional generating plants.

D. Locational Factors*

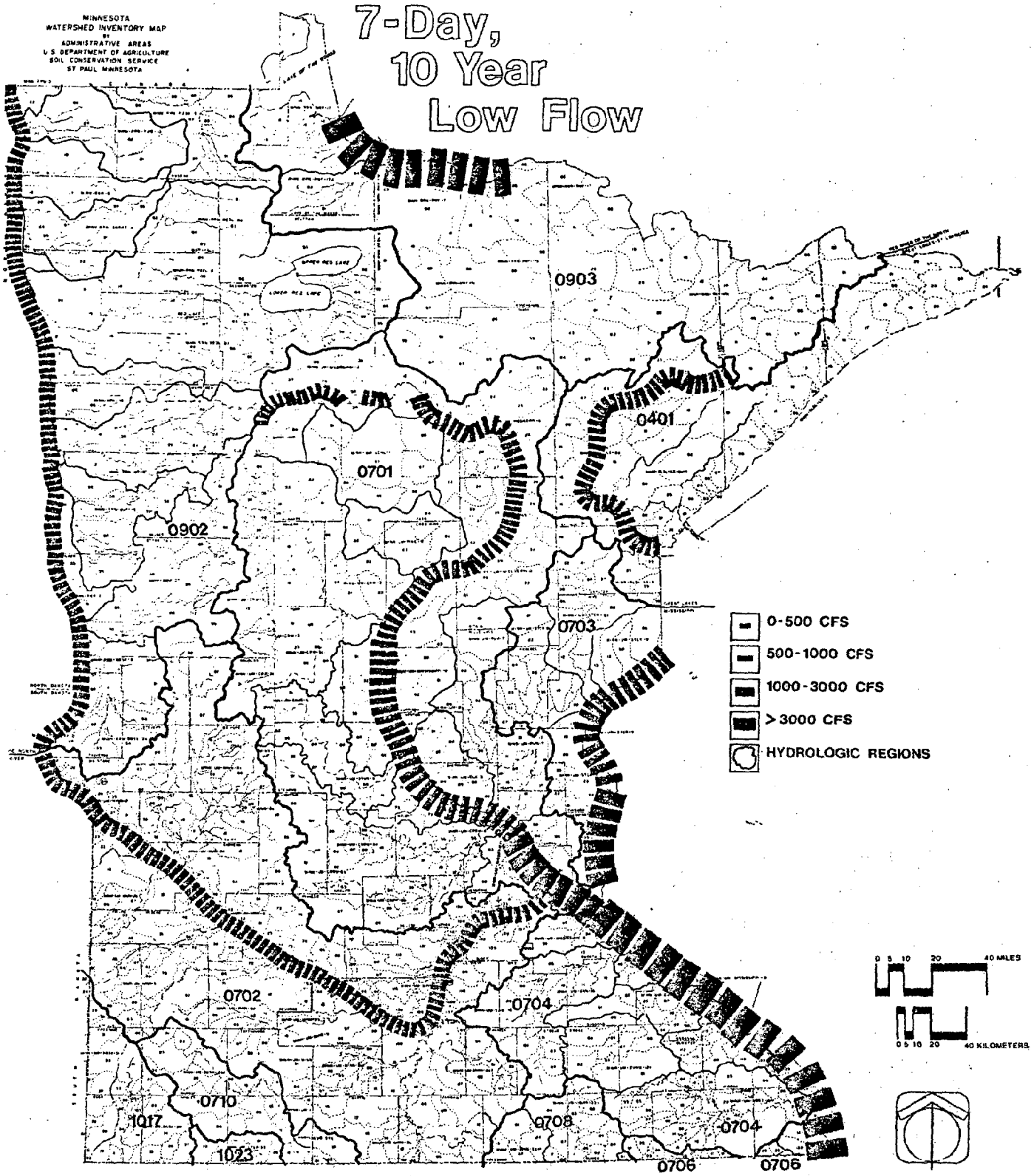
Current electrical power generation technology requires large amounts of water and emission of most of the products of combustion into the atmosphere. The two major constraints in locating power plants are: 1) the availability of large quantities of water, and 2) the avoidance of air quality problem areas.

Figure 3 shows the 7-Day, 10 Year Low Flow of streams in Minnesota. The St. Louis River has a 7-day, 10 year low flow of less than 500 cubic feet per second. If demands for the use of the St. Louis River continue to grow, consumption of water from this source may have to be limited eventually. When these limits are reached, there may be pressure to use Lake Superior as a source of water for additional generating plant development in northeast Minnesota.

Minnesota faces a number of air quality problems, including increasing concentrations of carbon monoxide (CO), sulfur dioxide (SO_2), particulates, nitrogen oxides (NO_x), and photochemical oxidants. Of these, SO_2 particulates and NO_x are the most important pollutants directly associated with electrical power generation. Although Duluth is currently not violating SO_2 or NO_x standards, severe air quality problems could occur if industrial growth continues at historical rates. Although maximum mean concentration did not exceed 75% of the ambient air standards in 1974, future violations are a real possibility. In addition to ambient air quality standards for SO_2 and NO_x, Duluth has been designated by the EPA as an Air Quality Maintenance Area, reflecting

*We are assuming no major technological breakthroughs in alternative sources of energy. According to the Great Lakes Basin Commission, Energy Facility Siting in the Great Lakes Coastal Zone: Analysis and Policy Options, "Over the next 15-20 years no major changes in the technology of large scale power production are expected to be implemented on a commercial basis." Consequently, discussion on locational factors is limited to coal-fired and nuclear power plants.

FIGURE 3



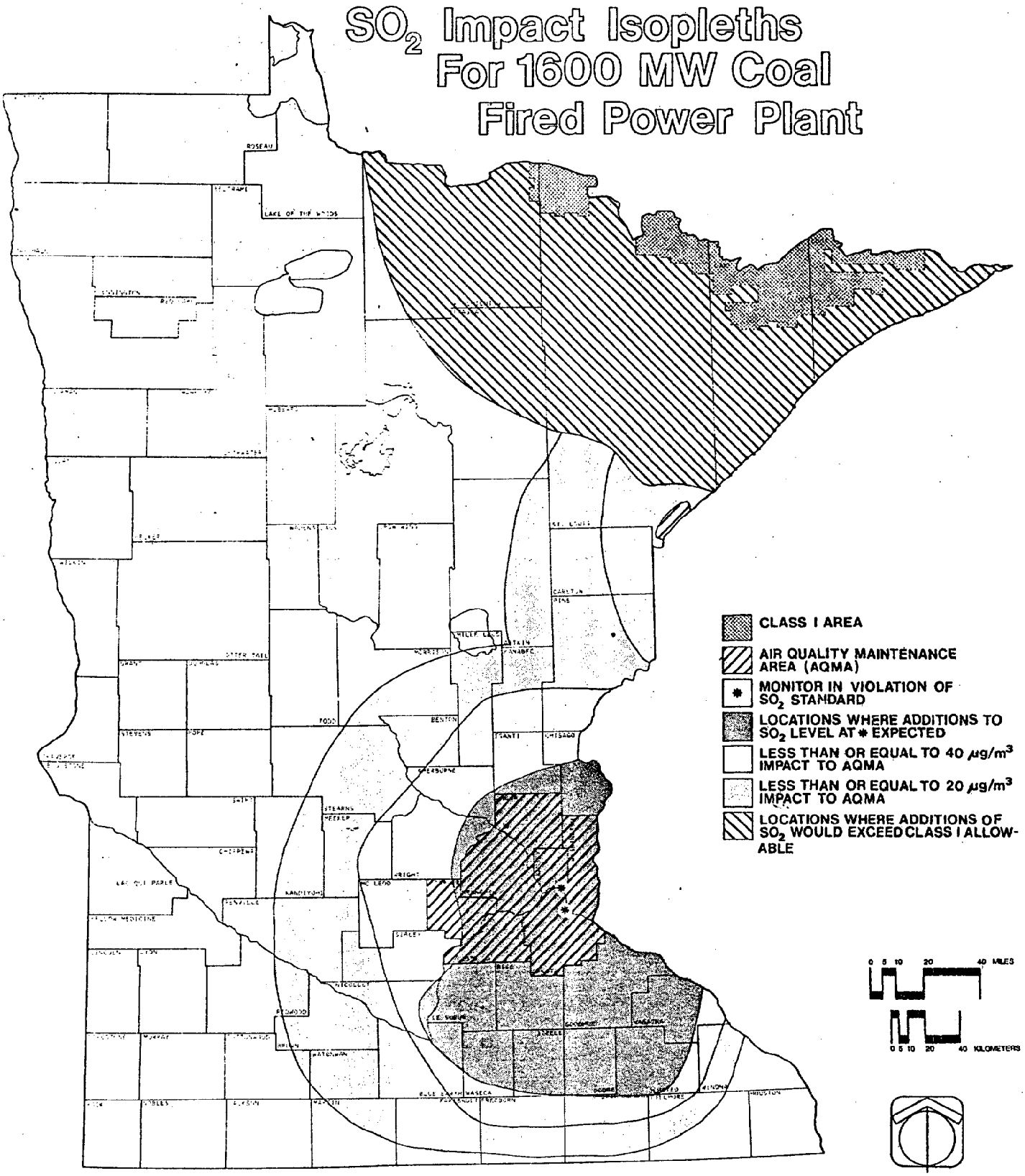
FUTURE ELECTRICAL ENERGY RESOURCE DEMANDS

SOURCE: DEPARTMENT OF NATURAL RESOURCES

possible particulate violations in the next ten years. An emission source which would affect an AQMA must be consistent with the AQMA Plan. Finally, EPA standards designed to prevent significant deterioration of existing air quality could limit power plant development in large portions of northeastern Minnesota. It is probable that the Boundary Waters Canoe Area and Voyageurs National Park will be designated a Class I area while the rest of the state would be designated as Class II. Figure 4 shows that practically the entire coastal zone would violate SO_2 standards if a power plant 1,600 MW in size would be sited there. (This map does not include Clay-Boswell Unit 4 nor the 800 MW plant planned for Floodwood.) Air quality standards alone may limit coal-fired power plants from northeast Minnesota. However, air quality standards do not preclude the possibility of a nuclear power plant locating either on the shore or inland, but close enough to use Lake Superior as a source of cooling water.

While the location of coal-fired power plants is dictated by: 1) availability of water, 2) avoidance of air quality problem areas, and 3) transportation networks, the location of nuclear power plants is more flexible in that they only require a source of water and land for exclusion purposes. The North Shore and the surrounding area could possibly meet both of these requirements. In addition, nuclear power plants have negligible impacts on air quality.

FIGURE 4



FUTURE ELECTRICAL ENERGY RESOURCE DEMANDS

SOURCE: POLLUTION CONTROL AGENCY

SECTION 2:

Other Energy-Related
Facilities - Numbers
and Location

SECTION 2: OTHER ENERGY-RELATED FACILITIES -- NUMBERS AND LOCATION

Minnesota is an importer of energy. Presently, a large portion of the imported energy comes from the Northern Great Plain States in the form of coal (15%) and from Canada in the form of oil (25%).

A. Coal Handling Facilities

Due to national air quality standards, western coal has become attractive as a less expensive source of fuel for power plants compared to eastern coal. There has been increased use of western coal for electrical generation in Minnesota. However, Minnesota has also become a transfer point for western coal going to destinations farther east through the Duluth-Superior Harbor located at the western tip of Lake Superior. For instance, the coal-handling facility in Superior, Wisconsin, was developed primarily to meet the demand of the Detroit Edison Company for low sulfur coal. This facility has the capacity to transship 20 million tons annually. As demand increases in the east for western coal, additional transshipment capacity may be needed in the coastal zone by the 1980's. For example, an expansion in demand for western coal via Superior may occur near Buffalo. Niagra-Mohawk Power Corporation is planning two 850 MW coal-fired plants near Dunkirk, New York, on Lake Erie, and it is anticipated that both will require low sulfur coal transshiped through the Duluth/Superior Harbor as their fuel source.

Currently, western coal is transported to the Duluth-Superior Harbor via unit trains (90-110 cars, 100 tons per car). However, once capacity is met on the two rail lines feeding into Superior, new modes of transportation may become necessary either in the form of additional rail lines or coal slurry pipelines.

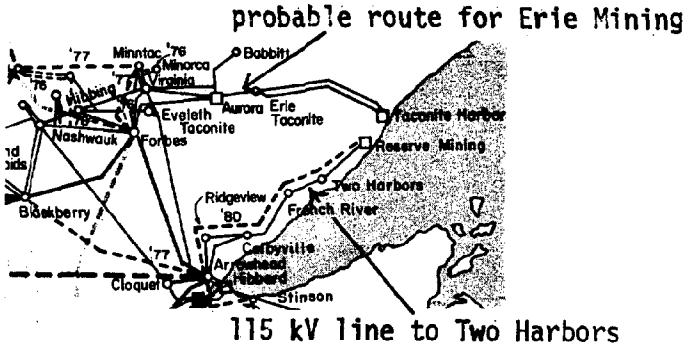
B. Oil Storage Facilities

In the short-term, curtailment of natural gas will be replaced by increased use of oil. Pipelines terminating near the coastal zone may deliver additional petroleum to serve load centers at Duluth and the iron range. Since pipelines deliver petroleum at a constant rate, and since petroleum demand is seasonal, additional oil storage facilities may be necessary in northeast Minnesota.

C. Transmission Lines

If Reserve Mining expands its processing facilities at Silver Bay, it is expected to purchase additional electrical energy from MP&L rather than expand its power plant at the same location. Minnesota Power and Light Company projects a need for a 230 kV line from Duluth to Silver Bay by 1981. If this line is approved by the Minnesota Energy Agency, the route selection process is expected to commence in 1978 or 1979. Erie Mining Company also may purchase additional electrical energy from MP&L, rather than expand its generating plant at Taconite Harbor. However, since Erie's processing plant is located inland from the north shore, existing transmission lines extending west and south would probably be used rather than constructing a new line south. (See Figure below.)

TRANSMISSION LINES



In 1978 a 115 kV line will be built from Duluth to Two Harbors to serve the needs of North Shore residents.

Facilities which are not likely to locate within or significantly near the coastal zone include:

1. Coal Gasification Plants

Currently only low Btu gasification is competitive with oil; however, low Btu gas cannot be economically piped beyond 1,500 feet. High Btu gas can be piped greater distances, but currently is not competitive with natural gas or oil. Therefore, before high Btu coal gasification plants are built on a large scale, coal gasification technology will have become competitive with oil and natural gas.

2. Power Plants Involving Direct Solar Energy

Technology will not be available for large scale production for the next 10 to 15 years.

3. Power Plants Involving Ocean Thermal Energy Conversion, Tidal or Wave Power, Wind Power, or Geothermal

Not applicable to Minnesota.

4. Uranium Enrichment Facilities

Not applicable to Minnesota.

5. Facilities to Separate Oil, Water and Gas

Not applicable to Minnesota. Such facilities will occur at point of production. Oil is not produced in Minnesota.

6. Drilling Rigs, Platforms, Subsea Completions, and Subsea Production Systems

Refers to offshore drilling. Not applicable to Minnesota.

7. Construction Yards for Platforms and Exploration Rigs, Pipe Coating Yards, Bases Supporting Platforms and Pipeline Installation and Crew and Supply Bases

Refers to offshore drilling. Not applicable to Minnesota.

8. Oil and Gas Storage in Salt Domes

Not applicable to Minnesota.

9. Marine Pipeline Systems, Including Pressure Source, Gathering Lines, Pipeline, Intermediate Pressure Boosting Facilities, and Landfall Sites

Not applicable to Minnesota.

10. Transportation Systems for Tankers

Not applicable to Minnesota. Refers to offshore drilling.

11. Facilities, Including Deepwater Ports, for the Transfer of Petroleum

Not applicable to Minnesota. Duluth-Superior Harbor is not a deepwater port.

12. Facilities for Geopressurized Gas

Not applicable to Minnesota. Sedimentary geological formations for geopressurized gas storage do not exist in northern Minnesota.

SECTION 3:

Existing Management Controls

SECTION 3: EXISTING MANAGEMENT CONTROLS

The State of Minnesota has several regulatory programs to plan and manage the impacts of energy facilities. The scope of these programs is summarized in Figure 5.

A. Forecasting

The Minnesota Legislature has directed the Environmental Quality Board (EQB) and the Minnesota Energy Agency (MEA) to collect data on energy supply and demand within the state to identify emerging energy trends and to determine the level of statewide and service area energy needs. The EQB requires biennial submission of fiteen-year forecasts of additional generating and tramission facility requirements. The Energy Agency requires annual submission of fifteen-year forecasts from prime petroleum suppliers, petroleum pipeline companies, natural gas utilities, and interstate pipeline companies, as well as electric utilities. Data collected by the Energy Agency is stored in the Regional Energy Information Systems database (REIS).

The Energy Agency is developing models to use the data stored in the REIS data base for policy analysis. The Agency has developed an input-output model that relates energy use to economic output and employment. The model predicts electric use in kilowatt hours and total non-electric energy use in Btu for commercial and industrial energy use for thirty-five sectors of the economy. A fuel substitution model distributes total non-electric energy projections to different fuel types considering relative fuel prices and obstacles to fuel shifts defined by the current patterns of consumption. A model is under development to predict residential fuel use considering different mixes of building types and different assumptions on the prices and availability of fuels.

The Legislature has funded an interagency study of the impacts of increased coal use in Minnesota. The Energy Agency has identified the current users of coal in the state. Within the next year, the Agency will prepare five and ten-year forecasts of coal use by user type and location. The study will examine increased coal demand by the mining and paper industries as well as small users in northern Minnesota.

FIGURE 5

MINNESOTA REGULATORY REQUIREMENTS FOR ENERGY FACILITIES

	Forecasting	Certificate of Need	Siting	Environmental Review
Electric Generating Plants	Biennial submission of 15-year facility forecasts by electric utilities to the EQB. (Minn. Stat. 116C.54) Annual submission of 15-year facility forecasts by electric utilities to the Energy Agency. (6 MCAR 2.20208 and 6 MCAR 2.20209)	Required for any generating plant 50 MW or greater, and any generating plant 5MW or greater burning oil, natural gas and natural gas liquids. (Minn. Stat. §116H.02, Subd. 5(a))	Sited by the EQB if capable of operation at 50 megawatts or more. (Minn. Stat. 116C.51-.69)	Preparation of an EAW required for construction of electric generating plants at a single site designed for or capable of operation at a capacity of 200 or more megawatts. (6 MCAR 3.024(b)(1)(c_1)) Environmental reports required at certificate of need and siting steps. (6 MCAR 3.025(G)(2))
High Voltage Transmission Lines	Same as above.	Required for any HVTL with a capacity of 200 kV or greater with more than 50 miles of its length within Minnesota, or with a capacity of 300 kV or greater with more than 25 miles of length within Minnesota. (Minn. Stat. §116H.02, Subd. 5(b).	The EQB routes HVTL capable of operation at 200 kilovolts or more. (Minn. Stat. 116C.51-.69)	Preparation of an EAW required for construction of electric transmission lines and associated facilities capable of operation at 200 kilovolts or more, and 50 miles or more in length. (6 MCAR 3.025(B)(1)(d_1))
Coal Gasification Plants	The Legislature has directed the Energy Agency to project the demand for coal in Minnesota by 5 and 10-year forecasts, by user type and location. The Legislature also directed the Energy Agency to study the potential for coal gasification in the state. (Minn. Laws 1977, Ch. 381§10)	Required for any coal gasification facility with the capacity to process more than 25 tons of coal per hour. (Minn. Stat. 116H.02, Subd. 5(k))	No state authority.	Preparation of an EAW required for construction of a new mineral or fuel processing or refining facility. (6 MCAR 3.024(B)(2)(j)

Figure 5 cont.

	Forecasting	Certificate of Need	Siting	Environmental Review
Oil and Gas Storage Facilities	Annual submission of 15-year facility forecasts for oil and gas storage facilities by petroleum and gas suppliers to the Energy Agency. (Minn. Reg. EA 407B and EA 310B) The Legislature directed the Energy Agency to study the state's storage capacity for heating fuels. (Minn. Laws 1977, Ch. 381, Section 21).	Required for any facility on a single site capable of storing more than one million gallons of crude petroleum or petroleum fuels or oil or their derivatives unless the facility would be at an existing site and would constitute an increase of more than 20% in the storage capacity at that site. (Minn. Stat. 116H.02, Subd. 5(c)). Required for any facility capable of storing on a single site more than 100,000 gallons of liquified natural gas or synthetic gas. (Minn. Stat. 116H.02, Subd. 5(f)). Required for any underground gas storage facility. (Minn. Stat. 116H.02, Subd. 5(g)).	No state authority.	Preparation of an EAW required for construction of facilities on a single site capable of storing one million gallons of liquid natural gas, liquid petroleum gas or other liquid fuels. (6 MCAR 3.025(B)(2)(h) Preparation of an EAW required for construction of an underground storage facility for gases and liquids. (6 MCAR 3.024 (B)(2)(i)).
Pipelines	Annual submission of 15-year facility forecasts for pipelines by petroleum and gas suppliers to the Energy Agency. (Minn. Reg. EA 407B and EA 307B).	Required for any pipeline greater than 6 inches in diameter and having more than 50 miles of its length in Minnesota used for the transportation of coal, crude petroleum or petroleum fuels or oil or their derivatives. (Minn. Stat. 116H.02, Subd. 5(d)). Required for any pipeline for transporting natural or snythetic gas at pressures in excess of 200 pounds per square inch with more than 50 miles of its length in Minnesota. (Minn. Stat. 116H.02 Subd. 5(e)).	Commissioner of the Department of Natural Resources must approve project plans for pipelines before the right of eminent domain is granted to the pipeline company. (Minn. Stat. 117.49)	Preparation of an EAW required for construction of a pipeline greater than six inches in diameter and 50 miles in length. (6 MCAR 3.025 (B)(2)(g)).

Figure 5 cont.

	Forecasting	Certificate of Need	Siting	Environmental Review
Facilities for the Transfer or Storage ofLNG	Annual submission of 15-year facility forecasts for transmission lines and storage facilities for LNG by gas suppliers to the Energy Agency. (Minn. Reg. EA 310B)	Required for any facility capable of storing on a single site more than 100,000 gallons of liquified natural gas or synthetic gas. (Minn. Stat. 116H.02. Subd. 5(f))	No state authority	Preparation of an EAW required for construction of facilities on a single site capable of storing one million or more gallons of liquid natural gas or other liquid fuels. (6 MCAR 3.025 (B)(2)(h)).
Coal Storage and Handling Facilities	The Legislature has directed the Energy Agency to prepare five and ten-year forecasts of state coal demand by user type and location, and to examine transportation and handling system needs. (Minn. Laws 1977, Ch. 381, Section 10)	Required for any facility to store 7,500 tons coal or with an annual throughput greater than 125,000 tons to serve coal-burning facilities within the state. Required for any facility to transfer more than 300 tons coal per hour or with an annual throughput of greater than 500,000 tons of coal from one mode of transportation to a similar or different mode of transportation (6 MCAR SS2.091-2.0981)	No state authority	The Legislature has directed several state agencies to study the environmental impacts of increased coal use, transportation and handling. (Minn. Laws, 1977, Ch. 381, Section 10) No EAW is required for coal storage and handling facilities. However, preparation of an EAW is required for industrial development of 40 or more acres within a floodplain, (6 MCAR 3.024 (B)(2)(c); and for harbor and marina projects of more than 20,000 square feet of water surface area. (6 MCAR 3.024 (b)(2)(s).
Petroleum Refineries	Annual submission of 15-year facility forecasts for refineries by petroleum suppliers to the Energy Agency. (Minn. Reg. EA 407B)	Required for any petroleum refinery. (Minn. Stat. 116H.02, Subd. 5(i)).	No state authority.	Preparation of an EAW required for construction of a new oil refinery or an expansion of an existing refinery that will increase capacity by 10,000 barrels per day or more. (6 MCAR 3.024 (B)(2)(f)).
Facilities including Deepwater Ports for the Transfer of	Annual submission of 15-year facility forecasts for pipelines and storage facilities by petroleum suppliers to the Energy Agency. (Minn. Reg. EA 407B)	Required for any pipeline greater than 6 inches in diameter and having more than 50 miles of its length in Minnesota used for the transportation of coal, crude	Commissioner of the Department of Natural Resources must approve project plans for pipelines before the right	Preparation of an EAW required for construction of facilities on a single site capable of storing one million gallons of liquid natural gas, liquid petroleum gas or other liquid fuels. (6 MCAR 3.024(B)(2)(h)

Figure 5 cont.

	Forecasting	Certificate of Need	Siting	Environmental Review
Petroleum		petroleum or petroleum fuels or oil or their derivatives. (Minn. Stat. 116H.02, Subd. 5(d)). Required for any facility on a single site capable of storing more than one million gallons of crude petroleum or petroleum fuels or oil unless the facility would be at an existing site and would constitute an increase of more than 20% in the storage capacity of the site. (Minn. Stat. 116H.02, Subd. 5(c)).	of eminent domain is granted to a pipeline company. (Minn. Stat. 117.49)	Preparation of an EAW required for construction of a pipeline greater than six inches in diameter and 50 miles in length. (6 MCAR 3.024 (B)(2)(g).
Nuclear Reprocessing Facilities	No state authority.	Required for any nuclear fuel processing facility. (Minn. Stat. 116H.02, Subd. 5(j))	No state authority.	Preparation of an EAW required for construction of nuclear material processing plants and facilities. (6 MCAR 3.024 (B)(2)(e_1))
Nuclear Waste Disposal Facilities	No state authority.	Required for any nuclear waste storage or disposal facility. (Minn. Stat. 116H.02, Subd. 5(j)).	Minnesota is under study by ERDA for potential nuclear waste disposal sites. The Legislature has prohibited the construction or operation of a radioactive waste management facility without express approval by the Legislature. The Legislature has prohibited the transportation of radioactive wastes into the state for burial or permanent storage without express approval by the Legislature. (Minn. Stat 116C.71-.74).	No environmental review required.

Statewide projections of energy use are too general for some planning purposes. The different types of loads for each electric utility require the application of different forecasting techniques for each service area. The Agency has developed the capability to prepare forecasts of electrical energy demand within the state. Projections of peak demand are important to evaluate the need for additional generating facilities, as well as projections of total electrical energy demand. The Agency is in the process of developing a model to project electrical demand for each service area.

B. Certificate of Need

The Legislature recognized that large energy facilities require a substantial commitment of the state's resources with significant effects on energy supply, the environment and the economy. The certificate of need program enables an evaluation of these effects in a public forum. Large energy facilities that require a certificate of need from the Director of the Energy Agency include electric power generating plants, high voltage transmission lines, petroleum and gas pipelines and storage facilities, petroleum refineries, coal transshipment facilities, coal gasification plants, and nuclear fuel reprocessing and waste disposal facilities.

In evaluating the need for a proposed facility, the Director must consider:

1. The accuracy of the long-range energy demand forecasts on which the necessity for the facility is based;

2. The effect of existing or possible energy conservation programs under sections 115H.01 to 115H.15 or other federal or state legislation on long-term energy demand;

3. The relationship of the proposed overall state energy needs;

4. Promotional activities which may have given rise to the demand for this facility;

5. Socially beneficial uses of the output of this facility, including its uses to protect or enhance environmental quality;

6. The effects of the facility in inducing future development;

7. Possible alternatives for satisfying the energy demand including but not limited to potential for increased efficiency of existing energy generation facilities;

8. The policies, rules and regulations of other state and federal agencies and local governments.

Public hearings provide an opportunity for the public to participate in the decision-making process. Other agencies with responsibility for approving the proposed facility are required to present their positions regarding the need for the proposed facility at the public hearings.

Within six months after receiving an application, the Director of the Agency must issue or deny a certificate of need. The certificate specifies the size, type and timing of the allowed facility.

The proposed location is known for some facilities at the time of application for a certificate of need. For example, the applicant can often specify the location of a proposed oil storage facility. The application often specifies the endpoints of proposed transmission facilities and oil pipelines. However, the location of other facilities is not known at the need state, for example, large electric power generating facilities.

C. Location of Power Plants and Transmission Lines

The Power Plant Siting Act requires the EQB to locate large electric generating plants and high voltage transmission lines. The process is guided by the policies and criteria given in the Power Plant Siting Act and the EQB's regulations. The Board must designate a site or route within one year after receipt of an application. This time period may be extended for up to six months for good cause. The location process includes extensive public notice, information meetings, a citizens' committee and public hearings.

Criteria for evaluation of power plant sites and transmission line routes are found in proposed rules and regulations MEQB 71-100. "The following criteria and standards shall be used to guide the site suitability evaluation and selection process. Not all site selection criteria are applicable to all plants to the same degree.

Power Plants

1. Exclusion Criteria.

   a. No large electric power generating plant shall be sited in violation of any federal or state statute or law, rule or regulation. No area shall be selected in which a large electric power generating plant is not licensable by all appropriate state and federal government agencies.

   b. The following land areas shall not be certified as a site for a large electric power generating plant except for use for water intake structures or water pipelines: national parks; national historic sites and landmarks; national historic districts; national wildlife refuges; national monuments; national wild, scenic and recreational riverways; state wild, scenic and recreational rivers and their land use districts; state parks; nature conservancy preserves; state scientific and natural areas; and state and national wilderness areas.

   c. No area shall be selected which does not have reasonable access to a proven water supply sufficient for plant operation. No use of ground water shall be permitted where mining of ground water resources will result. "Mining" as used herein shall mean the removal of ground water that results in material adverse effects on ground water in and adjacent to the area, as determined in each case.

   d. No water shall be transferred between the four major drainage basins within the state: that is, the Missouri River drainage basin, the Mississippi River drainage basin, the Lake Superior drainage basin, and the Red-Rainy River drainage basin.

2. Large Electric Power Generating Plant Avoidance Areas (LEPGP)

   a. In addition to exclusion areas, the following land use areas shall not be approved for large electric power generating plant sites when feasible and prudent alternatives with lesser adverse human and environmental effects exist. Economic considerations alone shall not justify approval of avoidance areas. Any approval of such areas shall include all possible planning to minimize harm to these areas. These avoidance areas are: state registered historic sites; state historic districts; state wildlife management areas (except in cases where the plant cooling water is to be used for wildlife management purposes); county parks; metropolitan parks; designated state and federal recreational trails; designated trout streams; and the rivers identified in Minn. Stat. §85.32, Subd. 1 (1971).

   b. Avoidance areas also apply to new transportation access routes and storage facilities associated with the plant in addition to the plant itself. Water intake structures and water pipelines shall not necessarily be prohibited from LEPGP avoidance areas.

c. The use of ground water for high consumption purposes, such as cooling, shall be avoided if feasible and prudent surface water alternatives less harmful to the environment exist. Ground water use to supplement available surface water shall be permitted if the cumulative impact minimizes environmental harm.

3. Site Selection Criteria. The following criteria shall be applied in the selection of sites.

a. Preferred sites require the minimum population displacement.

b. Preferred sites minimize adverse impacts on local communities and institutions.

c. Preferred sites minimize adverse health effects on human population.

d. Preferred sites do not require the destruction or major alteration of land forms, vegetative types, or terrestrial or aquatic habitats which are rare, unique, or of unusual importance to the surrounding area.

e. Preferred sites minimize visual impingement on waterways, parks, or other existing public recreation areas.

f. Preferred sites minimize audible impingement on waterways, parks, or other existing public recreation areas.

g. Preferred sites minimize the removal of valuable and productive land from other necessary uses.

h. Preferred sites minimize the removal of valuable and productive water from other necessary uses and minimize conflicts among water uses.

i. Preferred sites minimize potential accident hazards and possible effects with respect to geology.

j. Preferred sites permit significant conservation of energy or utilization of by-products.

k. Preferred sites are located near large load centers.

l. Preferred sites maximize the use of already existing operating sites.

m. Preferred sites utilize existing transportation systems unless feasible alternative systems, including new or upgraded existing substandard systems, have less adverse impact.

n. Preferred sites allow for larger rather than smaller generating capacity.

o. Preferred sites minimize adverse impact of transmission lines."

Transmission Lines

"In selecting a route and issuing a construction permit, the Board shall seek to minimize adverse human and environmental impact, maximize the efficient use of resources, and ensure continuing electric power system reliability. No route shall be designated by the Board in violation of federal or state statute or law, rule or regulation. No route shall be designated by the Board through state or national wilderness areas.

1. Designated Lands. Lands designated as state and national parks and scientific and natural areas by the Congress of the United States, the Minnesota Legislature or the Commissioner of the Department of Natural Resources pursuant to Legislative directive have been set aside for the benefit of the people and for future generations. No land within any of these designated areas shall be selected as a high voltage transmission line route by the Board unless:

   a. a route in a designated area would not materially damage or impair the purpose for which the land was designated; and

   b. unusual circumstances exist in all alternate routes which would be more severely detrimental to humans or the environment if any alternate were selected.

   Economic considerations alone shall not justify approval of these designated lands. In the event that such an area is approved, effort shall be made to minimize the harm to it.

2. Considerations for the Designation of a Route and Issuance of a Construction Permit. The Board shall make an evaluation of the following considerations prior to issuance of a construction permit. In its evaluation of route alternatives, the Board shall consider the characteristics of a given geographical area, identify the potential impacts, and apply methods to mitigate adverse impacts so that it may select a route with the least adverse impact.

   a. Identification of Geographical Characteristics and Potential Impacts. The Board shall identify the geographical characteristics and potential impacts in the following categories:

      (1) Existing and projected human settlement, including but not limited to development patterns;
      (2) Economic operations, including but not limited to agricultural, forestry and mining operations;
      (3) The natural environment and public land, including but not limited to natural areas, wildlife habitat, waters, recreational lands, and lands of historic or cultural significance;
      (4) Reliability, cost and accessibility.

b. Methods of Mitigating Impacts. The Board shall utilize the following methods in seeking to find a route with the least adverse impact:

(1) Evaluation of existing land use or management plans, and established methods of resource management;
(2) Evaluation of routes along or sharing existing rights-of-way;
(3) Evaluation of routes along survey, natural division and field boundaries;
(4) Evaluation of structures capable of expansion in transmission capacity through multiple circuiting or design modifications to accommodate future high voltage transmission lines;
(5) Evaluation of alternate structure types and technologies."

Before January 1, 1979, the EQB must prepare an Inventory of Large Electric Power Generating Plant Study Areas. The Inventory will map areas of the state for further study to find power plant sites. A Power Plant Siting Advisory Committee is currently developing policy on use of air and water resources and fuel transshipment and how it relates to power plants. The use of Lake Superior for cooling water is an issue that ultimately must be faced in revising the Inventory.

D. Siting of Other Energy Facilities

The Commissioner of the Department of Natural Resources must approve pipeline routes before the right of eminent domain is granted to the pipeline company. The Commissioner's evaluation is based on information collected by the environmental review process.

The Energy Research and Development Administration (ERDA) has the responsibility to site federal radio-active waste repositories in deep geologic formations. Minnesota is among thirty-six states under study by ERDA in fiscal year 1977 for potential sites. The ERDA will conduct surveys of the geologic literature and possibly field work to evaluate the suitability of granite and quartzite formations in northern Minnesota. However, the Legislature has prohibited the construction or operation of a radio-active waste management facility in Minnesota without the approval of the Legislature (M.S. §115C.71-.74). The Legislature has also prohibited the transportation of radio-active wastes into the state for burial or permanent disposal.

Although state locational authority is only extended to large electric generating plants and high voltage transmission lines, the siting of other energy-related facilities within or near the coastal

zone will be controlled through the permit process. Federal and state permits listed in the supplement entitled A Compendium of State and Federal Programs for Potential Consistency Monitoring will be reviewed by the EQB for compliance with the coastal zone plan. If an energy-related facility is found not to be in compliance with the coastal zone plan or would significantly affect the coastal zone resources, issuance of a permit could be denied.

There is also no state siting authority for coal transshipment facilities. However, the coal impact study funded by the Legislature may suggest areas for the siting of transshipment facilities. The study will examine the need for coal transshipment sites in northern Minnesota to serve the mining and paper industries as well as demand east of the state.

E. Environmental Review

The Environmental Policy Act sets environmental policy for the state and requires environmental review of major decisions. The Act also requires preparation of an environmental impact statement (EIS) where there is potential for significant environmental effects from any major governmental action or from any major private action of more than local significance. Any action that requires approval by a public agency is considered a governmental action. The EQB is authorized to prescribe by rule those circumstances in which an EIS is required. These regulations will be amended to require environmental review in any circumstance where any major action is proposed that would be in violation of the coastal zone plan.

The Environmental Assessment Workshet (EAW) is a form that describes the proposed project to help determine whether the "tests" for an EIS are met. The EQB's regulations require mandatory preparation of EAWs for an array of projects, including all of the energy facilities considered in this plan. In addition, an EAW may be ordered in response to a citizen petition or at the initiative of the proposer, the EQB or other units of government. The EAW concludes with findings on the need for an EIS. These findings are printed in a state publication, the EQB Monitor,

to enable interested parties to review the worksheet and challenge its findings.

The meat of an EIS is the comparison of alternatives to the proposed action and evaluation of mitigating measures to reduce the impact of the proposal. The alternative of different sites could be considered in greater depth during the environmental review of projects in the coastal zone for which the state lacks siting authority, such as coal transshipment facilities.

The environmental review process itself cannot stop the development of a project. The EIS is an information document to inform decision-makers, public and private, of the impacts of their actions. Modification of projects often results from the exchange of ideas in the review process. However, Minnesota Statutes §116D.04, Subd. 9 grants the EQB authority to reverse or modify state decisions that are inconsistent with state environmental policy. Minnesota's coastal zone plan will become state environmental policy when approved by the Governor.

F. Permits

A variety of public agencies must approve the construction and operation of large energy facilities. Currently, local approvals are preempted by state authority for generating plants and transmission lines that are sited by the EQB. Other large energy facilities usually require local approval to assure consistency with local land use plans and ordinances. Upon approval of the coastal zone plan, local approval will be based on policy and guidelines outlined in the plan.

The EQB issues a certificate of site compatibility for large electric generating plants and construction permits for high voltage transmission lines. Transmission lines and oil pipelines require approval from the Department of Natural Resources (DNR) to cross streams and state lands. These facilities also require approval from the Minnesota Department of Transportation (MN/DOT) and other agencies for road crossings.

Most other large energy facilities require permits from the Department of Natural Resources, the Pollution Control Agency, and the Minnesota Health Department. The DNR requires permits for the appropriation and consumption of public waters, and for work in the beds of public waters. The PCA regulates air emissions, water discharges, noise, and solid waste. The Minnesota Health Department must approve the plans for wells and sewage systems associated with large energy facilities. All these permits, as well as many others outlined in the Permit Supplement, will have to be in compliance with the coastal zone plan before they can be issued.

SECTION 4:

Site Requirements/Impacts

SECTION 4: SITE REQUIREMENTS/IMPACTS

The impacts of an energy facility depends on its site and design. Table 1 summarizes the major environmental impacts of energy facilities. The impacts include consumption of resources (such as water), and the production of wastes (such as air emissions, reject heat and solid waste). The greatest environmental impacts are attributable to facilities that process fuels (such as refineries), and to facilities that convert energy from one form to another (such as generating plants and gasification facilities).

Table 2 summarizes the siting requirements of large energy facilities. The requirements include land requirements, water requirements, access to the transportation network and distance from sensitive areas. Petroleum pipelines, transmission lines and oil and gas storage facilities impose few resource requirements, except for land requirements. In contrast, facilities to process energy or convert energy from one form to another such as refineries or generating plants require a greater investment of resources.

TABLE 1

REQUIREMENTS OF ENERGY FACILITIES	Access to Water for Cooling or Process Water	Access to Water for Transportation	Access to Rail	Access to Pipelines	Access to Highway System	Distance from Population Centers	Distance from Class I Areas	Requires Linear Right-of-Way	Requires More Than 100 Acres in a Block
Electric Generating Plants - Fossil	Y	M	Y	N	Y	M	Y	N	Y
Electric Generating Plants Nuclear	Y	N	M	N	Y	Y	N	N	Y
High Voltage Transmission Lines	N	N	N	N	N	N	N	Y	N
Gasification Plants	Y	M	Y	M	Y	M+	M+	N	Y
Coal Storage and Handling Facilities	N	M	Y	M	Y	N	M	M	M
Petroleum Refineries	Y	M	Y	Y	Y	M+	Y	N	Y
Facilities Including Deep Water Ports for the Transfer of Petroleum	N	Y	M	Y	M+	N	N	N	N
Oil and Gas Storage Facilities	N	M	M	Y	M+	N	N	N	N+
Petroleum Pipelines	N	N	N		N	N	N	Y	N
Facilities for the Transfer or Storage of LNG	N	M	M	M+	M	N+	N	N	N
Uranium enrichment or Nuclear Reprocessing Facilities	Y	M	M	N	Y	Y	N	N	Y
Nuclear Waste Disposal Facilities	Y	N	M	N	Y	Y	N	N	Y

KEY: Y Required
N Not Required
M May be Required

TABLE 2

IMPACTS OF ENERGY FACILITIES	Water Consumption	Water Quality	Thermal Releases	Air Quality	Radioactive Releases	Solid Waste	Noise	Transportation Impacts	COMMENTS
Electric generating plants - Fossil	Y	M	Y	Y	M	Y	M	Y	Emissions of sulfur oxides, particulates and trace elements to air. Significant thermal releases. Significant consumption of water. Impacts attributable to the transportation of fuel.
Nuclear Electric Generating Plants	Y	M	Y	N	M	N	M	M	Nuclear plants release chronic low-level radiation. Very low probability of a major accident releasing greater levels of radioactivity.
High voltage Transmission lines	N	N	N	N	N	N	N	N	Aesthetic disruption. Interference with other land-uses.
Gasification plants	Y	M	Y	Y	M	Y	M	Y	Emissions of sulfur oxides, particulates and trace elements to air. Significant thermal releases and consumption of water. Impacts attributable to transportation of fuel.
Coal Storage and Handling Facilities	M	M	N	M	N	M	M	Y	May be a significant source of particulate emissions. Water use and solid waste production may result from coal washing. Other impacts are attributable to transportation of coal by rail barge and truck.
Petroleum Refineries	Y	M	Y	Y	N	M	M	M	Major source of sulfur oxide and hydrocarbon.
Facilities including deepwater ports for the transfer of petroleum	N	M	N	N	N	N	N	Y	Potential for contamination of surface water with oil spills at the transfer point.
Oil and Gas Storage Facilities	N	M	N	N	N	N	N	N	Potential for contamination of groundwater or surface water from a failure of the tank.
Petroleum Pipelines	N	M	N	N	N	N	N	N	Potential for contamination of groundwater or surface water from a failure of the pipe.
Facilities for the transfer or storage of LNG	N	N	N	N	N	N	N	M	Potential for fire or explosion from release of LNG.
Nuclear reprocessing facilities	Y	N	Y	N	M	M	N	M	Greater chronic releases of radioactivity than other steps of the uranium fuel cycle. Low probability of greater releases from a major accident. Potential for radioactive releases from transportation of radioactive materials to and from the site.
Nuclear waste disposal facilites	Y	N	Y	N	M	M	N	M	Chronic low-level releases of radioactivity. significant thermal releases

KEY: Y Significant impact
N Not significant
M May be significant

SECTION 5:

Coordinational Network

SECTION 5: COORDINATIONAL NETWORK

Coordination between state coastal planning and relevant state, federal, and local agencies involved in energy facility planning will be assured due to the position the State Planning Agency has on the Environmental Quality Board and the Policy Advisory Committee. (See Chapter 3 - Organization and Authorities for a detailed discussion of the organizational structure for coastal zone implementation.) The Diagram below outlines the more relevant points from Chapter 3 relating to energy development in the coastal zone.

DIRECTOR OF SPA

Chairman, Environmental Quality Board	Chairman, Policy Advisory Committee
1. SPA will review the Power Plant Siting Program and permits of other state agencies for compliance with the coastal zone plan.	1. Energy-related facilities, other than power plants, usually require local approval consistent with local plans.
2. EQB will not issue permits if they are not in compliance with state policy.	2. Coastal zone plan will become local plan.
3. Coastal zone plan will become state policy upon adoption by Governor.	3. Locals must comply with coastal zone plan.
4. State agencies on EQB will review federal counterparts issuing permits for energy related facilities; if not consistent, EQB will recommend not issuing permit.	4. SPA will monitor compliance.
5. EQB will monitor permits of federal agencies with no state counterpart.	

SECTION 6:

Conclusions

SECTION 6: CONCLUSIONS

Minnesota's existing regulatory process can be adapted to energy planning for the coastal zone. Data collection and forecasting programs enable the state to anticipate energy needs. The state holds review and permitting authority for all of the energy facilities considered in the plan. The review process is coordinated by the Environmental Quality Board which has authority to suspend or modify any state decision. (See Chapter 3 - Organization and Authorities.) The public has an opportunity to participate in each step of the regulatory process.

Some steps of the planning process can be buttressed for facilities that may affect the coastal zone. For example, special conditions can be attached to certificates of need to protect coastal resources not regulated by other state authority where these conditions would tip the balance between a "needed" and "not needed" judgment. The environmental review of pipelines and coal transshipment facilities can consider alternate sites and designs in greater depth for projects affecting the coastal zone. The EQB Monitor can be used to a greater extent to notify the interested public of each step in the regulatory process for energy facilities affecting the coastal zone.

The state should examine the need for additional authority to site pipelines and coal transshipment facilities. Like large electric facilities, these are facilities with significant energy and environmental impacts that evoke a high degree of public concern. Like electric utilities, pipeline companies are also delegated the right of eminent domain upon the approval of the Commissioner of the Department of Natural Resources.

The planning process recognizes the problems associated with the long lead time required for the planning of some energy facilities. The long lead time required for large electric facilities and pipelines makes forecasting demand more difficult and less accurate. Additional state review of energy facilities affecting the coastal zone should be incorporated into the existing time framework to the maximum extent possible without compromising the review process.

The planning process recognizes that the relationship of a proposed facility to the coastal zone is often not known at the preliminary stages of state review. For example, the proposed location of a large electric generating plant is often not known at the certificate of need stage. In these cases, the evaluation of impacts of proposed facilities on the coastal zone must be focused on the later stages of the regulatory process.

The energy planning process recognizes that the impacts of an energy facility often are not confined to its immediate site. Some energy facilities located outside the coastal zone may have a significant impact on coastal resources. For example, an electric power plant twenty miles inland may significantly affect the air quality of the coastal zone. Facilities proposed outside the coastal zone are more difficult to monitor and incorporate in the coastal zone planning process. State and local officials must recognize the significance of impacts on the coastal zone as projects are proposed.

Minnesota's planning process must recognize the national interest in the coastal zone's natural resources, and its relationship to the energy supply network. The beauty of the north shore is more than a statewide resource. The energy supply network that supplies Minnesota extends far beyond the state's boundaries. In addition, Minnesota cannot be parochial; it must recognize its interdependence with the rest of the world for energy supplies.

Minnesota's planning process for energy facilities is accompanied by conservation programs that recognize the environmental impacts of energy facilities and the limits to traditional energy supplies. The state plays an active role in educating the public on the need for energy conservation. The state administers grant programs to encourage research and development of innovative conservation practices and the development of alternative energy sources. The state has incorporated energy standards in the state building code, banned decorative gas lamps, limited the use of outdoor display lighting, set efficiency standards for room air conditioners, banned pilot lights on new appliances and prohibited the heating of enclosed parking areas. Further regulation of the end-uses of energy may be required.

The matrix shown in Figure 6 represents a graphic summary of work activities conducted within this Chapter. As such it shows how the planning requirements of the CZM Act dovetail with the energy-related facilities which must be considered. It also shows that several additional work activities will be conducted during the implementation phase of the program which will result in additional management controls and policies. In the first activity, (work element 6, page 2) the coastal zone will be examined in relation to energy facility impacts and requirements which were discussed in a previous section. From this analysis, it will be determined which facilities could locate in the coastal zone with minimal human and environmental impacts and which facilities should be located outside the coastal zone (see work element 7). From the above analysis, additional policies and guidelines will be developed for the management and control of energy-related facilities locating within or significantly near the coastal zone.

Figure 6

Coastal Zone Energy Requirements

The management program must include a planning process that can anticipate and manage the impacts from energy facilities in or significantly affecting the state's coastal zone.

	1 An identification of energy facilities which are likely to locate in, or which significantly affect,* the coastal zone.	2 A procedure** for assessing the suitability of sites for such facilities.	3 Articulation of state policies and other techniques for the management of energy facilities, and/or their impacts.	4 A mechanism for coordination and/or cooperative working arrangements, as appropriate, between state coastal planning or management agency and other relevant state, federal, and local agencies involved in energy facility planning and/or siting, including conformity of siting programs, where they exist, with the coastal zone management program.	5 An identification of legal and other techniques that can be used to meet management needs.
electric generating plants, including those involving fossil or biomass fuels, nuclear power,	forecasting and certificate of need (CN)	state siting authority EAW			
direct solar energy, ocean thermal energy conversion, tidal or wave power, wind power, or geothermal energy	not applicable	not applicable			
petroleum refineries and associated facilities	forecasting/CN (pipelines-forecasting/CN)	EAW EAW/permit			
gasification plants	special study/CN	EAW			
facilities used for the transportation, conversion, treatment, transfer, or storage of LNG	forecasting/CN	EAW			
uranium enrichment or nuclear fuel processing facilities	not applicable CN	EAW			
nuclear waste disposal***	CN	ERDA study			
facilities to separate oil, water and gas	not applicable	not applicable			
drilling rigs, platforms, subsea completions, and subsea production systems	not applicable	not applicable			
construction yards for platforms and exploration rigs, pipe coating yards, bases supporting platforms and pipeline installation and crew and supply bases	not applicable	not applicable			
oil and gas storage facilities, including salt domes	forecasting/CN not applicable	EAW not applicable			
marine pipeline systems, including pressure source, gathering lines, pipeline, intermediate pressure boosting facilities, and landfall sites	not applicable	not applicable			
oil and gas processing facilities	not applicable	not applicable			
transportation systems for tankers	not applicable	not applicable			
facilities, including deepwater ports, for the transfer of petroleum	forecasting/CN (deepwater ports-not applicable)	EAW/permit			
facilities for geopressurized gas	not applicable	not applicable			
terminals which are associated with the foregoing					
high voltage transmission lines***	forecasting/CN	state siting authority EAW			
coal storage and handling facilities***	special study/CN	special study/EAW for industrial development of greater than 40 acres in size in the floodplain			

1. EIS required in any circumstance where any major action is proposed that would be in violation of the coastal zone plan.
2. Power Plant Siting Act
3. Policies and Guidelines Outlined in the Coastal Zone Plan--will be state policy upon adoption by the EQB
4. Additional energy-related policies and guidelines to be adopted during coastal zone program implementation

EQB

Permit Monitoring

*Substantial or potentially substantial changes in coastal zone resources; includes changes in land, air, water, minerals, flora, fauna, noise and objects of historic, cultural, archaeological, or aesthetic significance; can also include concepts outlined in the NEPA of 1969

**Procedure must also include a capability to evaluate alternative sites and to determine if a potential site is appropriate given these assessments.

***not included in coastal zone rules and regulations.

SECTION 7:

Tentative Recommendations

SECTION 7: TENTATIVE RECOMMENDATIONS

1. The Minnesota Energy Agency should conduct a detailed study of coal use within the coastal zone.
2. The use of Lake Superior as a cooling water should be studied.
3. Environmental Assessment Worksheets for facilities outside the coastal zone should include an evaluation of impacts on the coastal zone.
4. State location authority should be extended to pipelines and coal transshipment facilities.

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SUPPLEMENT 4

Special Studies

COASTAL ZONE MANAGEMENT

DULUTH-SUPERIOR HARBOR ELEMENT OF MINNESOTA'S CZM PLAN

The Wisconsin and Minnesota Coastal Zone Management Programs both recognize that the Duluth-Superior Harbor is the most important commercial resource on the Lake Superior's shoreline. By measure of tonnage, it is easily among the ten busiest ports in the nation. In addition, the harbor's natural recreational and scenic values are unique to the area.

The harbor's numerous and varied assets necessitate a cooperative plan to protect and promote the proper development of these features. The planning process currently underway for the harbor has defined objectives which underscore the need for the plan:

- -To define a local/state policy on the future significance of Duluth-Superior as an international port.
- -To allocate land and water resources to various current and long-range development needs for port activity, open space requirements, industrial uses, commercial and residential development.
- -To identify for protection and enhancement unique natural resources.
- -To identify institutional changes necessary to efficiently and equitably implement public responsibilities in the harbor.

At this point the harbor planning process has begun its second and final year. During the first year, work centered on identifying issues, initiating discussions between and among public agencies, private interests and various units of government, and identifying methods of resolving selected issues.

The document, Draft Duluth-Superior Harbor Inventory of Harbor Resources and Issue Identification, (May 18, 1977), identified twenty-six issues of significance. Many of these issues are highly interrelated and several are simply different perspectives of the same basic concern. By no means are they the only issues found in the harbor, but they are the major ones. As a plan is devised to resolve these issues, other related unlisted problems will be drawn into consideration. The twenty-six issues by category are:

Land Use

1. Industrial Development: the need and desire for maritime industrial uses are expanding and waterfront land is required for them. Some useable land is now being used by non-maritime industrial activities.

2. Environmental Protection: certain environmentally important areas must be put aside and preserved. Among these areas are Hearding Island, Grassy Point, Allouez Bay and portions of the St. Louis shoreline.

3. Greater Land Use Diversity: everyday contact with the harbor is limited by the current land use patterns. Increased numbers of land use types would serve to bring more people closer to the waterfront.

4. Land Management: the public currently lacks coordinated tools to permit the desired development in the harbor.

Natural Resources

5. Preserve and Protect Specific Resources: significant wildlife, fish and plant resource areas should be protected and managed.

6. Water and Air Quality: progress is being made towards achieving the appropriate standards, but problems remain and may increase if new development is not properly guided.

7. Erosion: land lost to erosion is a major concern on Minnesota and Wisconsin Points and may pose problems to development along the St. Louis River.

Water Transportation

8. Dredge Disposal: satisfactory answers to the short and long-term questions on dredge disposal are necessary if proper development of the harbor is to occur.

9. Commercial Shipping Forecasts: shipping will increase in tonnage carried and, maybe, in number of vessels. Vastly expanded western coal shipments underlie this upswing.

10. Recreational Boating Needs: there will be a rapid increase in boating and there currently is a shortage of facilities at the harbor.

11. Commercial Vessel Efficiency: parts of the harbor today prevent efficient use of commercial vessels and use of the new larger vessels may be limited by other features of the harbor.

12. Year Round Shipping: year round shipping would prove a boon to bulk cargo shippers and users, but may cause a loss of local jobs and necessitate additional public expense.

Ground Transportation

13. Aerial Lift Bridge: the lifting of the bridge for marine traffic using the Duluth Ship Canal causes extensive delays for automobile traffic seeking to enter or leave Park Point. The delays are most bothersome in the summer when large numbers of people throng to Park Point and when there are more lifts for commercial and recreational craft.

14. Burlington Northern Railroad Bridge: the effective width of the Wisconsin Draw of this bridge does not provide sufficient margin of error for the newer and larger ships. Also, the railroads suffer considerable delays because of the frequent bridge openings for marine traffic.

15. Arrowhead Bridge: the old bridge desperately needs replacing to satisfy both ground and water transportation interests. However, the approaches to the bridge may pose conflicts with industrial development plans in both cities.

16. Grain Truck Parking: historically grain truck parking has been a problem along the waterfront due to a lack of room. Some actions have been taken by the private interests to remedy the problem, but more action could be taken.

17. Road Conditions: roads serving industrial and residential neighborhoods alike are in need of upgrading. Also, there are several railroad crossings which require improvements to reduce potential for accidents. Access for heavy loads is a problem today and will increase if a route around the proposed extension of I-35 is not found.

18. Minnesota Point: this neighborhood feels the problem of extensive outside use of local streets. The high summer traffic loads demand at least a partial resolution of the traffic congestion and safety problem along the sole main avenue on the Point.

Recreational/Open Space/Historical Features

19. Recreational Boating: there is a need for sail and power boat facilities including ramps to increase ease of access to the harbor. Boating safety, too, will become more of a problem as use is increased.

20. Preserve and Maintain Natural Environment: although mentioned several times already, the perspective seen here is the concern for the environment as a recreational resource and to safeguard it from too many or unthinking recreationists.

21. Historical Features: the harbor is filled with interesting historical sites that could be creatively utilized as recreational features.

22. Resident-Tourist Conflicts: conflicts between residences and tourists over trespassing, litter and the like occur in any heavily visited area. In the harbor, Minnesota Point is the primary sore spot.

23. Hunting: hunting is allowed in Superior under certain regulations, but is forbidden under any terms in Duluth. The disparity has created some hard feelings and law enforcement problems.

Public Services and Utilities

24. Vessel Wastes: while progress is being made to handle the amounts and types of waste-sewage, garbage, dunnage - problems still remain.

Institutions

25. Environmental Regulation Agencies: the harbor is split three ways between Minnesota, Wisconsin and the federal government resulting in overlap and competing separated jurisdictions.

26. Harbor Management: repeated cases have been presented to merge the two port authorities. Regardless of that issue, the level and type of port services is also a concern.

The process of issue definition relied heavily on existing information generated by prior studies. Only where data were missing or no longer valid was new data generation undertaken. The two biggest efforts along this line are the bird habitat and fishery studies. These studies, being done by University of Minnesota-Duluth and University of Wisconsin-Superior, respectively, will identify those portions of the harbor which are critical to bird (game and non-game) and fish populations.

Coordinated with the issue identification process has been an on-going series of workshops aimed at obtaining valuable comments, opinions and insights from private interests knowledgeable about the harbor. The first two workshops were on general harbor issues and long-term dredged material disposal. A third workshop on public management was geared towards public agencies and units of government.

THE HARBOR AREA MANAGEMENT PLAN

The end product of the planning process will be the Harbor Area Management Plan (HAMP) which will consist of two elements. The first will be the land use plan. This plan will designate which areas are to be used for what uses ranging from commercial, conservation, recreation, shipping, residential, industrial and so on. Also, it will contain designated sites for dredged material disposal.

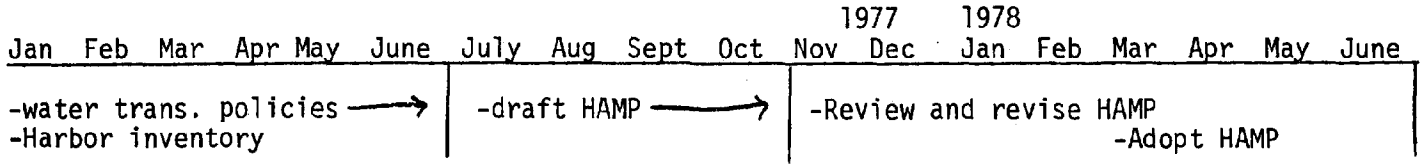
Another section of the land use plan will be a set of policies designed to guide decisions which concern solely the harbor's water transportation system. These policies have already been published in the report Policy Guidelines for the Water Transportation System of the Duluth-Superior Harbor.

The second element of the HAMP will describe the management structure for the harbor. Currently alternatives for the various management areas - port, natural resources, zoning, etc. - are under study.[1] Certain features of the management section which will probably be utilized can be noted.

First, the CZM programs of each state will have coordinative functions for the harbor. As a segment of Minnesota's and Wisconsin's Coastal Zone, the harbor plan will fit into their organization and authority systems. Secondly, the management structure will stress active citizen participation throughout the process. Thirdly, emphasis will be placed on agency coordination and cooperation.

Figure I shows the scheduled time line for developing the plan.

Figure I. Plan Development Schedule



[1]A workshop was held July 28, 1977 on harbor management. Also, smaller working sessions have been held with the agencies directly involved with managing various harbor interests. A draft paper on port management has been printed.

SHORT RANGE IMPROVEMENT PLAN
FOR THE
DULUTH-SUPERIOR HARBOR AREA

ADOPTED 8/17/77

BY THE

METROPOLITAN INTERSTATE COMMITTEE...
A JOINT PLANNING AND DEVELOPMENT VENTURE
OF THE ARROWHEAD REGIONAL DEVELOPMENT
COMMISSION, THE NORTHWEST REGIONAL PLANNING
COMMISSION AND URBAN AREA COMMUNITIES.

* * * * * * *

THE DULUTH-SUPERIOR HARBOR AREA PLANNING
PROCESS IS PARTIALLY FUNDED BY A GRANT FROM
THE OFFICE OF COASTAL ZONE MANAGEMENT AS
ADMINISTERED BY THE MINNESOTA STATE PLANNING
AGENCY AND THE WISCONSIN DEPARTMENT OF
ADMINISTRATION.

Short Range Improvement Plan
for the
Duluth-Superior Harbor

Central to the Metropolitan Interstate Committee's harbor planning process is the development of a long-range Harbor Area Management Plan. However, during the course of the first year of work many items have surfaced which could be readily implemented or initiated in advance of the HAMP's final design.

This Short Range Improvement Plan is to be seen as a catalyst urging appropriate governmental units to become the lead agencies in undertaking selected projects. While some efforts may necessitate extensive capitol outlay, most merely require changes in routines or the taking of the critical steps on designated tasks. When appropriate on a given item, refer to the attached map.

Short Range Improvement Plan

1. Kimball's Bay heron rookery

   Staff personnel of the Wisconsin DNR and UMD researchers have identified a large and significant great blue heron rookery (nesting site) on the eastern shore of Kimball's Bay in Superior. The site is on privately owned property. In order to insure the protection and sound management of this site the land should be under public control.

   Action: Purchase the site.
   Agency: Wisconsin Department of Natural Resources

2. Illegal dump by Oliver Bridge in Duluth

   Just off the road to the sewage pumping station near the Duluth side of the Oliver Bridge there is an ad hoc dump. The area is immediately adjacent to a marsh along the river and there is evidence of fill material and refuse being dumped into the marsh.

   Action: Clean up the site and prevent future dumping by barricading the access road.
   Agency: Minnesota Pollution Control Agency, City of Duluth, Western Lake Superior Sanitary District

3. Port authority cooperation

   Regardless of any final decisions on port merger or the like, the two authorities can achieve greater cooperation and understanding through several low-cost actions.

   Action: Send notices of meetings, minutes and other similar papers to the other authority's members.
   Agency: Seaway Port Authority of Duluth, Superior Board of Harbor Commissioners.

4. Connors Point

   Connors Point represents one of the few undeveloped pieces of land left along Superior's harbor. To insure better public control of this critical parcel's development it should be directly in the City's ownership.

Action: Acquire Connors Point
Agency: City of Superior

5. Boat accesses

The harbor has numerous boat accesses, but only one is developed to any degree; the rest are under-maintained and essentially unimproved. They should be improved to meet existing demand (especially for larger boats) let alone to meet any increased traffic.

Action: Improve selected accesses by putting in ramps, docks, and parking.
Agency: Cities of Duluth and Superior, Village of Oliver, Minnesota and Wisconsin Departments of Natural Resources

6. Western Waterfront Trail

The City of Duluth is developing a proposal for the development of a hiking, biking and excursion trail along the St. Louis River. This development will allow many residents and non-residents alike to obtain a close contact with the river and to learn about it.

Action: Begin development of the Western Waterfront Trail including land purchase where necessary (e.g. the Old Drill's Marina site).
Agency: City of Duluth

7. Marine sewage disposal

Disposal of sewage from commercial and recreational craft is hampered by the lack of pumpouts for shipboard holding tanks. Recommendations have been made to put pumpouts at three docks and progress is being made to construct one at the WLSSD plant. Only one recreational craft pumpout exists.

Action: Construct sewage pumpouts at the BN, DM&IR and Clure docks.

Construct a pumpout at the WLSSD treatment facility. This pumpout is to be used only by private or public sewage barges operating within the harbor.

Construct pumpouts at those marinas which do not have them (a private act, but the public may be able to assist if not at least require).

Agency: WLSSD, Cities of Duluth and Superior, private operators.

8. Billings Park

Billings Park is currently Superior's only developed waterfront park and is one-of-a-kind along both sides of the St. Louis River. While it is an attractive site, it needs upgrading and improvements to maintain its ability to satisfy current and anticipated demand.

Action: Redesign and upgrade all aspects of the boat access.

Rebuild the bridges, remove the riprap around the islands and replace with stone riprap, and generally upgrade the park.

Agency: City of Superior

9. Natural resource management

As with cooperation between the two port authorities, there is a need for cooperation between the various agencies concerned with the harbor's natural resources. Again, this move towards coordination precedes the MIC's management proposals which will be put into the final harbor plan.

Action: Initiate coordination in monitoring, information systems, research and permit review between the Minnesota and Wisconsin DNRs, WLSSD, MPCA, and US Fish and Wildlife Service.

Agency: WDNR, MDNR, USF&WS, WLSSD, MPCA

10. Proposed Superior transshipment facility

The City of Superior's efforts towards developing a new transshipment facility need to be maintained. However, all steps must be taken to insure that the facility does not conflict with the new Arrowhead Bridge.

Action: Coordinate site design and development between the Arrowhead Bridge and the proposed transshipment facility.

Agency: Wisconsin Department of Transportation, City of Superior.

11. Harbor waters clean up

The Coast Guard during its patrols of the harbor will pick up most major debris (dead heads, etc.) it sees floating. However, a regular and specific effort to keep the waters free of dangerous and unappealing matter is necessary for a safe and aesthetic harbor. Such an effort should be applied to the St. Louis River and bay as well as the harbor.

Action: Institute a permanent harbor waters clean up program.
Agency: Coast Guard, SPAD, SBHC, WLSSD

12. Historical trails

The numerous historical sites within the harbor lend themselves to the development of historical trails which educate and entertain users of the system. A clear and definite link to the harbor's past can be developed via these trails. They can be interconnected with the harbor area recreation sites.

Action: Develop a historical trail system (auto, hike, bike) within the harbor.
Agency: City of Duluth and Superior park departments, WDNR, MDNR, Douglas and St. Louis County historical societies.

13. Erie Pier

The harbor needs the Erie Pier site as a dredge disposal site for the next 6-10 years.

Action: Continue all efforts towards the development of the Erie Pier diked dredge disposal site.
Agency: City of Duluth, Corps of Engineers

14. General Mills grain truck parking

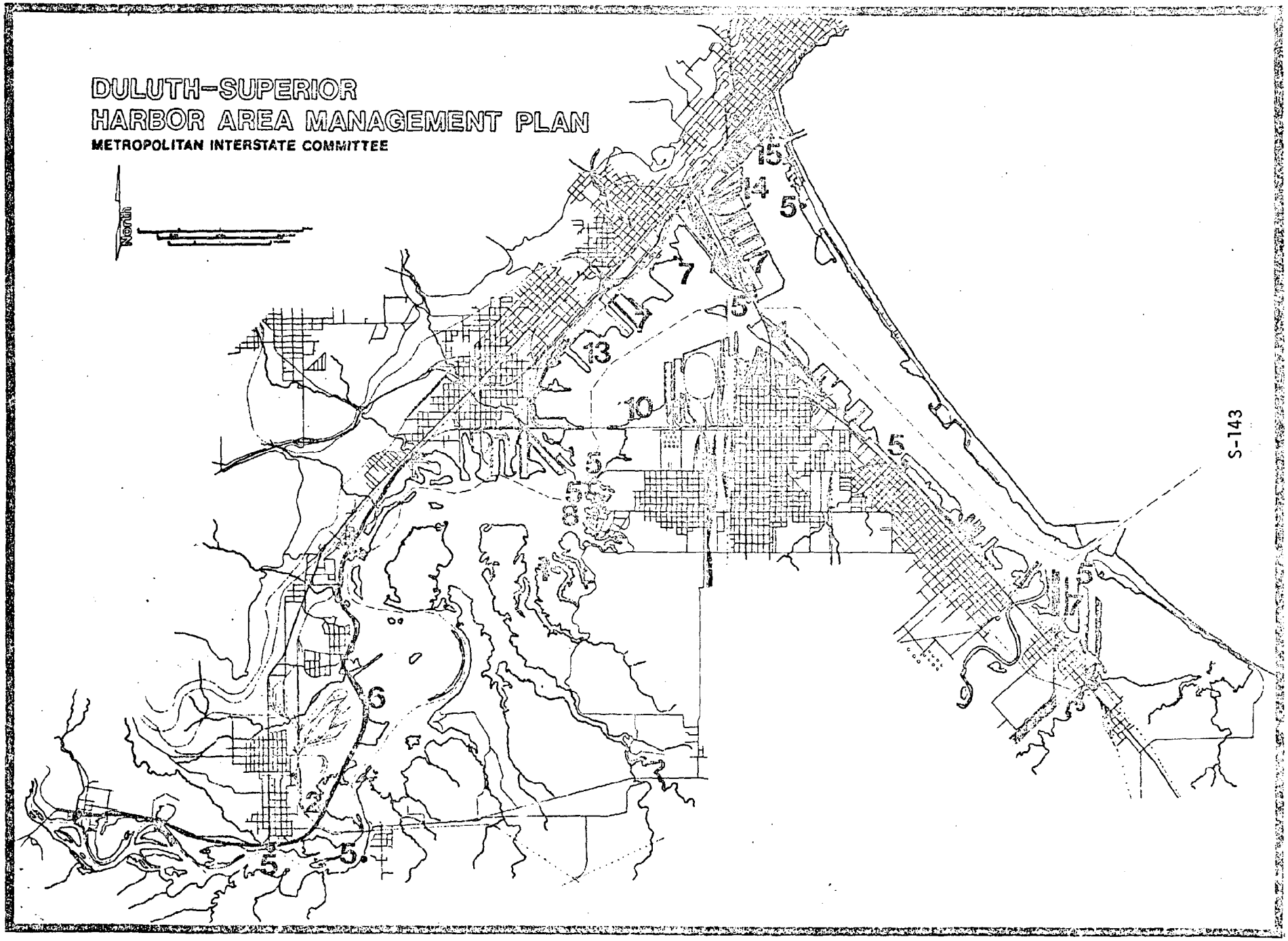
The General Mills grain elevator in Duluth currently has a shortage of parking spaces for waiting grain trucks. This problem could be eased by filling in a small portion of the adjacent slip and constructing a parking facility upon it.

Action: Fill in foot of General Mills (Elevator A) slip and build a parking facility upon the new land.
Agency: Corps of Engineers, City of Duluth, MDNR, MPCA, General Mills

15. Commercial development study

Along the entire waterfront there is only one area where commercial development might be possible on a large scale. This area runs from Canal Park to the Arena-Auditorium. Consideration of the redevelopment of this site should be seriously evaluated as commercial retail development would add to the variety of land uses along the harbor and could significantly add to the attraction of the commercial site.

Action: Study the feasibility of redeveloping the Duluth waterfront from Canal Park to the Arena-Auditorium to commercial uses.
Agency: City of Duluth


DULUTH-SUPERIOR
HARBOR AREA MANAGEMENT PLAN
METROPOLITAN INTERSTATE COMMITTEE
NORTH
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NORTH SHORE RECREATION STUDY SUMMARY

NORTH SHORE RECREATION STUDY SUMMARY

I. PURPOSE OF THE STUDY

The primary purpose of the North Shore Recreation Study was to evaluate the recreational potential of the local, state, federal and private lands on the North Shore. The secondary purpose was to make suggestions which would serve to coordinate public and private recreation facilities into a "system." This system-wide view will provide a framework for preparing individual master plans for the units of the State Outdoor Recreation System located within the coastal zone.

Definition of a System

For this study, the definition of a "system" will be "... a complex unity formed of many diverse parts; an aggregation of components jointed in regular interaction of interdependence; etc."

The use of recreation facilities by the public creates regular patterns of interaction between these "components" and thereby makes them interdependent. The interaction of private resorts which provide lodging and park lands which provide recreation spaces is an example of this interdependency.

The Components

The "components" of the North Shore Recreation Study include all those recreation facilities provided by the various agencies and private groups. They can be grouped as follows:

A. Existing (authorized) units of the Outdoor Recreation System

1. Parks

Baptism River State Park
Gooseberry Falls State Park
Cascade River State Park
George Crosby Manitou State Park
Judge C.R. Magney State Park
Split Rock Lighthouse State Park
Temperance River State Park
Caribou Falls State Park Rest Area
Cross River State Rest Area
Devil's Track Falls State Rest Area
Flood Bay State Park and Rest Area
Kodunce State Park Rest Area
Ray Berglund State Park and Rest Area

2. Trails

North Shore Corridor Trail (Duluth to Grand Portage)
Corridor Trail (Grand Marais to Ely)

3. State Forests

Grand Portage State Forest
Pat Bayle State Forest
Finland State Forest
Cloquet Valley State Forest

4. Approved Wildlife Management Areas

Cascade/Jonvick Wildlife Management Area
Leveaux Wildlife Management Area

B. Existing Rest Areas and Right-of-Way Land administered by the Department of Transportation.

C. All North Shore Streams

D. Previously proposed units for consideration in the Outdoor Recreation System including:

1. Tettagouche State Park

2. Wildlife Management Areas A-G in Cook County and Wildlife Management Areas A and B in Lake County, contained in DNR's Wildlife Management Area Long-Range Acquisition Plan.

3. Scientific and Natural Areas

Thomsonite Beach
Susie Islands
Pigeon River Falls
Rock Vole Habitat
Silver Cliff
Hawk Ridge
Minnesota Point

E. Potential recreation sites identified during the North Shore Study:

The Brule Wildlife Area
Sugar Loaf Landing
Horseshoe Bay
Caribou Lake/Lake Agnes
Potential harbors of refuge and small boat harbors

F. All other components, such as the federal, county and private recreation facilities, were studied for their relationship to these specific components.

II. APPROACH

Methods Used to Evaluate the Components

The components listed above were studied as to their location and accessibility to various means of transportation; their natural characteristics such as wildlife suitability, vegetation types, soils and topographic relief; their recreational features, both natural and historical; existing types and numbers of recreational facilities, and problems related to management for recreation.

The methods used to evaluate the components included various computer analysis and mapping techniques as well as site inventories, evaluations and public interviews. This analysis was conducted on a regional scale in order to provide a common basis for assessing the relationship of these components to one another. Detailed management plans will be prepared for each of the state facilities pursuant to the Outdoor Recreation Act.

Existing Recreational Use

Patterns of use were determined through interviews with local residents, resort and private campground owners, and state and federal agency personnel who are most familiar with local conditions. Local involvement has been a major influence on the development of this plan and its recommendations. Park attendance figures over a five year period, various extension service reports, DOT studies, and various economic studies for the region, also helped define the long-term trends.

Use and Management of Public Lands

In determining the type of management best suited to the various publicly-owned areas on the North Shore, this study considered the following:

a. the relationship between privately-owned recreational facilities and publicly-owned lands;
b. the type of management that is deemed most appropriate for specific resources by resource managers;
c. the total range of public and private recreation lands and facilities within the study area to identify

III. DOCUMENTATION

Introduction

The report will be produced in two parts. One part is a data manual which includes all the data used to develop the report. The other part is the main report which summarizes the findings of the North Shore Recreation Study and presents suggestions for addressing the problems raised by these findings.

North Shore Recreation Study Data Manual

The data manual will be available for reference by anyone doing planning in the region. The data manual will include a detailed inventory of all the information and studies that were available to date relating to recreational development. This information includes land use profiles which were prepared for the Reserve Mining Case Study. Other reports prepared by the various governmental agencies have also been incorporated.

North Shore Recreation Study Report

The main report suggests a long-range strategy for developing the recreational potential of the entire area by coordinating public and private plans and activities.

The suggestions in the study are grouped into three types. The first type can be implemented immediately without extra funding or manpower. The second type(of recommendations)can be accomplished through existing programs, but may require extra funding or manpower or coordination. The third type of recommendations are long range goals which address more complex management issues requiring special funding, significant program reorganization, or special legislative action. Time will be an important factor in the realization of these recommendations. The successful achievement of the first and second types will form the framework for implementing type three recommendations.

IV. DISCUSSION OF ISSUES

1. Public Land Ownership

One of the major issues of concern to North Shore residents is the large amount of public land ownership in the area. The counties do not derive tax revenues from this land.

Currently, the Legislative Commission on Minnesota Resources (LCMR) is studying the issue of payment "in lieu of taxes" to local units of government whose jurisdictions contain state-owned lands. Congress recently passed a bill which compensates for loss of taxes due to federal ownership. The LCMR will determine the direct benefits of state ownership to local units of government and compare them with the benefits to be derived from various payment in-lieu-of-tax alternatives.

2. Planning of Public Lands

There is a strong relationship between recreational development on public and private lands. Ideally, these developments should compliment each other. If public agencies prepare plans for the development and management of public lands, these plans serve as a guide to private enterprise as well. Camping provides an excellent example. If the private sector knows what the state plans to provide, they can develop facilities that either provide alternative types of camping or fulfill an unmet demand if it exists.

3. Resort Stability

Most North Shore resorts are relatively small family operations that do not include enough land to provide much on-site recreation. These resorts have remained stable over the years as opposed to the national trend, which shows large resorts to be more stable and profitable. North Shore resorts provide modestly-priced accommodations and local residents prefer them to larger resort complexes.

With better coordination, public lands and small resorts can work together. Public lands provide the space for hiking, sightseeing, cross-country skiing, hunting and a variety of other activities while the resorts provide accommodations.

V. DISCUSSION OF CONCEPTS

Based on the analysis of resource data and usage patterns of recreational facilities along the Shore, a number of concepts were developed which address the major issues identified through this study. These concepts serve to emphasize the interdependent nature of recreation facilities along the North Shore and provide a framework for developing specific recommendations. The concepts are as follows:

a) Phasing of Uses
b) Accessibility
c) Day Use/Destination Use Planning
d) Cooperative Management Programming
e) Natural Systems Management Areas
f) Property Consolidation for Management Effectiveness
g) Multiple Season Recreation Nodes
h) Recreational Clustering

These concepts are described in detail below.

a) Phasing of Uses

Essentially, this concept recognizes that most land areas are capable of supporting more than one activity and that management of these lands should serve to maximize the number of these activities. Management may emphasize a sequence of different uses over time, such as timber production followed by wildlife enhancement followed by recreational activities. At the same time, the management process should recognize that at any given point in the sequence, secondary activities can be accommodated which are consistent with management goals. For example, while an area is being managed for timber production, it could also be used for recreational activities such as hiking, cross-country skiing and hunting.

The objective of this approach is to manage state lands in the most efficient manner possible and to develop their potentials in a way which results in maximum benefits to the public. This approach will also aid in consolidating state properties for management purposes.

b) Accessibility

Accessibility refers to the relative ease with which tourists and local residents may gain access to the variety of recreational opportunities along the Shore. A wide range of factors are considered under this concept including road design, distance, availability of information regarding recreational opportunities, patterns of recreational use, facility location and alternative modes of travel.

To illustrate, the linear nature of the Shore and the lack of loop or alternative routes have concentrated recreational usage in the state parks along Highway 61. Usage is highest in those parks closest to Duluth and decreases toward the Canadian border.

The concept of accessibility holds that the design of the recreation system should distribute users throughout the system so that crowding at certain facilities is alleviated and access to all recreational opportunities is provided, commensurate with user demand and resource capabilities.

c) Day Use/Destination Use Planning

Underlying this concept is the idea that recreational activities may generally be classified as either day-use activities or destination-use activities. Day-use activities are those which a person would ordinarily participate in only once at a given location on any given recreational outing. Examples include viewing individual scenic or historical attractions such as the Split Rock Lighthouse or Gooseberry Falls, and picnicking. The duration of these activities is typically short and is dictated by accessibility factors. Destination-use activities are those which are engaged in over and over, either at one location or several locations, on a particular trip. Examples of destination-use activities are hunting, fishing, skiing, camping and snowmobiling.

The analysis of user patterns has shown that the Shore from Duluth to Illgen City is primarily impacted by demands for day-use activities while the Shore from Illgen City to the border is better suited for destination-use activities. This distinction implies that detailed planning for individual facilities must take into account the differing demands to be placed on the facility and provide for the proper types of activities which enhance either day-use or destination-use activities, depending on the facilities' location on the Shore.

d) Cooperative Management Programming

Currently, public land management is the responsibility of federal, state and local units of government and there is little likelihood that this will change. Recognizing this, the concept of cooperative management programming emphasizes on-going coordination of management between all levels of government, identification of common objectives and allocation of responsibility. Under this concept, management programs would be coordinated to avoid repetition or duplication of efforts and to insure that confusion over responsibilities does not work against the achievement of management objectives.

e) Natural Systems Management Areas

This concept relates to the preservation and management of natural physical and biological resources. To achieve this effectively, several things are necessary. First, several studies and inventories are necessary to determine the nature and extent of these resources, both within a local and a statewide context. These studies include vegetation inventories, microclimate studies, wildlife habitat evaluation and classification and study of potential Scientific and Natural Areas.

Once this baseline information has been collected and analyzed, the proper management approach must be determined. Some areas may best be managed for a single use, while other areas may be better handled through a multi-disciplinary approach where several agencies cooperate in managing the area.

In order to achieve the management objectives established for each area, the management program should be carefully developed to insure that the objectives are achieved.

f) Property Consolidation for Management Effectiveness

The presence of scattered parcels of land outside of any management unit or the presence of land inside management units which are unsuited for the purpose of that unit has often resulted in inefficient management practices. To remedy this, it is necessary to evaluate the resource potentials of such areas and to assign their management to the appropriate agency. These areas should then be consolidated into manageable units in order to assign the primary responsibility for management.

A good example is Cascade River State Park. Due to the linear nature of the park and the existence of Highway 61 running through the park, it is extremely difficult for the park manager to control park land in a manner consistent with good park philosophy. Combined with this is the fact that the southern portion of the park is excellent deer and grouse habitat and illegal hunting occurs. This study recommends that this area be withdrawn from the Park and turned over to the Division of Fish and Wildlife. The result is more efficient management of the park and more suitable management for the habitat area.

g) Multiple Season Recreation Nodes and Recreational Clusters

Because of their similarities, both of these concepts will be discussed together. Both concepts have three essential aspects:

1) an attraction space for recreational activity development;
2) support facilities, which may include provision of gas, food, lodging, entertainment, and so on; and
3) accessibility for its user group.

They differ in that the relationships of the attraction spaces to support facilities in each are tailored to meet different sets of needs. In a recreational cluster, public lands provide the main attraction space, while private businesses provide lodging and other support services Recreational clusters have the potential of promoting more extended use activities. Coordination with the local resort operators would be essential to insure the availability of ample lodging in the vicinity of the attraction space. A cooperative management program would be needed to avoid unnecessary duplication and insure predictability for both the state and the private businessman.

In contrast, private support facilities would be the central feature in a Multiple Season Recreation Node. This type of cluster would be comprised of a number of private businesses which provide services to people using the surrounding public lands and/or waters, particularly for activities such as boating and snowmobiling. These service areas should build on existing private developments because the exchange of goods and services, to be successful, requires a concentration of compatible support facilities. Development of surrounding public recreational areas could focus the demand for services on these areas and promote their use on a year-round basis.

VI. RECOMMENDATIONS

1. Accessibility Recommendations

a) Roads

1) Road surfaces should be repaired.
2) Shoulders should be added to the roads, where possible.
3) Maintenance should be structured to conform with usage peaks.
4) Scenic views should be obstructed when the occur on unsafe curves.
5) Where viewing is safe, areas could be cleared to enhance the scenic quality of the road. This would especially improve road areas where safety is a problem, creating a "pacing" of alternative views and enclosures.
6) Specific times could be set for regulating road usage, for specific demands such as time-regulated truck traffic.
7) Unsafe areas should be corrected by developing alternate routes and retaining the old roads as scenic drives. "Pull-off" lanes, or slow-down lanes designed at appropriate sight distances from curves, could be constructed to allow slower or wider vehicles to pull over and allow faster vehicles to pass.
8) Speed zones should be established in those areas where curves are especially dangerous, or at areas with limited visibility where pedestrians cross the road.
9) A final design plan for U.S. 61 should be completed utilizing information collected through the CZM Program along with an analysis of the area's scenic character.
10) Roads should be designed with loop routes at regular intervals (approximately 20 miles apart), and should bypass as many congested areas as possible. Enhancement of the scenic quality of the road, to a point where it is as descriptive of the region as possible, will provide a road that serves as a pleasurable driving experience in itself, while at the same time solving the hazardous problem areas.

b) Boating

1) Small Boat Harbors

A small boat harbor provides launching and docking facilities as well as fuel and automobile parking. Common size standards require that harbors be capable of holding 50-100 boats, but the standard for the North Shore provides that harbor facilities must be capable of launching 30 boats per day, and provide parking for 30 autos.

Existing small boat harbors are located at: Two Harbors, Grand Marais, Duluth, Knife River.

Recommendation: Small boat harbors should be constructed at Silver Bay, Schroeder and Grand Portage.

2) Harbors of Refuge

Harbors of refuge provide emergency shelter for boaters caught on the Lake during sudden storms. These harbors may or may not be developed with boat ramps, and do not contain facilities for parking or gasoline. Ownership and control may be the responsibility of the federal, state, county, or local governments.

There are no existing public harbors of refuge.

Recommendation: Harbors of refuge should be developed at: Split Rock River, Baptism River, Temperance River, Lutsen Area, Sugarloaf Landing, Manitou River, Good Harbor Bay, and Bluebird Landing.

3) Public Access Sites

As the number of boaters on Lake Superior increase, additional access sites should be developed. Access sites are facilities which permit the public to launch boats into the water. Access sites may be free-standing or incorporated into harbors of refuge or small boat harbors.

Recommendation: Public access sites should be developed at: Illgen City, Manitou River, Flood Bay, Horseshoe Bay, Sugarloaf Landing, and Temperance River.

4) Boaters and trail users should use the same private service facilities to provide year-round patronage. Coordinated trail/boat service areas would provide boating service during summer months and snowmobiling service during winter months. Service areas could also be coordinated with rest area developments to provide facilities supportive of both picnicking and pleasure driving. Both of these procedures would avoid a costly and unnecessary duplication of services.

c) Trails

1) Links to the North Shore corridor trail should be constructed to connect it to Cascade, Baptism, Split Rock, and Gooseberry State Parks, and to the Cross River and Caribou Lake areas.

2) Whenever possible, the service areas and provision of services of gas, food, and lodging at trail linkages, should be privately operated to insure local economic growth. Links and trails should be located on public lands, whenever legally possible, and should be built on soils physically suitable to trail development (i.e., soils not highly susceptible to erosion).

3) The North Shore corridor trail should be completed to Grand Marais and extended on through Judge C.R. Magney State Park to the Grand Portage Area. This trail should be designed with links into service areas at approximately 50 mile intervals.

4) Links should also be constructed to connect the corridor with state parks and forests, and loops off the corridor into areas of unique natural features.

5) Trails should be developed for bicycle use. If Trunk Highway 61 is redesigned as a scenic roadway, a bicycle trail could be incorporated on the shoulders.

2. Gravel Source Locations

a) An appropriate balance should be established between the use of areas for gravel mining and recreation usage.

b) Existing gravel pits on all types of recreation lands should be closed where there are adequate alternative sites.

c) A detailed study of gravel source locations should be conducted. A plan should be developed from this analysis to insure the existence of adequate gravel types (on an average of 15 miles) which are required yearly for maintenance usage for present and future use.

d) Consideration should be taken to avoid the inclusion of gravel sources within statutory boundaries, unless the area is essential for facilitation of proper recreational management.

e) Any valuable gravel pits or mineral sites within the parks should be protected from future park development.

f) Concerning areas where alternative sites are not available, a reclamation and excavation policy should be outlined to meet the conditions of the other resource demands.

g) Upon completion of excavation, gravel pits located within conflicting management areas should be phased out and reclaimed in a manner beneficial to current land management practices.

3. Rest Areas

Three types of rest areas should be developed on the North Shore Scenic Highway that are coordinated with each other in the recreational zone. The classes of rest area development are as follows:

Class I - Rest Area and Information Center -- A major rest area facility which would be comparable to the Thompson Hill Information Center facility - I-35 in Duluth. It would include flush toilets, surfaced parking areas, refuse containers, picnic tables and shelters, drinking water, an attendant and possible regional historical/cultural interpretation facilities.

Class II - Rest Area and Interpretive Facility -- A rest area development which would include regional historical, cultural and natural resource interpretation facilities related to the North Shore recreational zone. In addition, they would include vault rest rooms, surfaced parking areas, refuse containers, picnic tables and drinking water. Special features would include site interpretations and trail systems to lakes, rivers and agate hunting areas. In concept, then, they are recreation use areas that are adequately spaced along the scenic highway corridor to provide recreational driving facilities as well as the necessary convenience requirements for safety on the highway.

Class IV - Rest Area-Scenic Overlook -- A minimum level of development located at unique viewing points along T.H. 61. These facilities would include parking areas, refuse containers and possible site interpretation information (marker or plaque). The views from these vantage points would be managed in an appropriate manner so that the view potential would be increased.

Recommendations:

a) A Class I Rest Area should be developed at the border near the Pigeon River.
b) Class II rest areas should be developed at the following locations: Knife River, Split Rock River, Baptism River, Tofte, Cut Face Creek and Grand Portage.
c) A total of 26 rest areas are recommended for closure. Seven of these are locally controlled and maintained.
d) Fifty-three Class IV sites should be maintained on the shore. The net effect of closings and new rest areas is a total of 61 areas, compared to the 89 areas which now exist.

See the main report for a detailed listing of rest areas by proposed type or action.

4. State Forest Recommendations

a) An "Intensive Forest Inventory" should be done for the Cloquet Valley, Pat Bayle, Finland and Grand Portage State Forests. This inventory should provide the needed detailed resource information on stand composition, and age and site productivity, enabling a determination of prime and marginal use sites for forest production.

b) Detailed resource data should be compared for all parcels of Department of Natural Resources properties to determine the best use of the resource and the appropriate management division or section.

Dispersed types of recreation should be integrated with timber management on sites where there is potential for both uses. Establishing management units for each use, by delineating boundaries and transferring ownership, is in many cases unnecessary and in fact reduces management flexibility because it creates administrative barriers. If an effective plan is developed and adhered to, both uses can be developed to a greater degree within the same management unit.

c) Particular areas with high wildlife and recreation values should be evaluated for cooperative management programs, similar to the Cascade Management Plan. The Brule deeryard and Judge Magney Park make up one such potential area. The park can capitalize on the interpretive value. Areas with limited forest production value at this time might be managed for species richness and wildlife diversity.

d) Vegetative management for scenic corridors should be done along all major recreation routes, forest roads leading to recreation sites or used for recreation purposes, as well as state forest land adjacent to other recreation corridors.

e) Investigate the boundaries of state forest land with the objective of determining the best manageable unit, deleting any possible areas outside the unit which have no present or future value for forest production and expanding boundaries to include other state owned lands which have value for forest production.

f) A demand survey should be conducted and used in conjunction with the Intensive Forest Inventory to determine which recreational needs of the North Shore could be provided within state forests.

g) Areas with high wildlife and recreation values should be evaluated for cooperative management programs, similar to the Cascade Management Plan. The Brule deeryard and Judge Magney State Park with Grand Portage State Forest make up one such potential area.

h) Scenic corridors should be established along all major recreation routes, forest roads leading to recreation sites or used for recreation purposes, as well as state forest land adjacent to other recreation corridors and maintained in a manner consistent with vegetation management for the whole forest.

i) Recreational development in Finland State Forest should be done in conjunction with Baptism River State Park for day-use and in conjunction with Crosby-Manitou State Park for destination-use.

j) Recreational development in Pat Bayle State Forest should emphasize destination-use activities.

k) Intensive recreational development in Grand Portage State Forest should be concentrated around Judge C.R. Magney State Park while the surrounding forest should be used for dispersed activities.

5. Rivers and Lakes Recommendations

a) Fisheries

1. Counties and appropriate interest groups should develop a fisheries habitat management program for North Shore rivers with technical assistance from the Department of Natural Resources. These efforts should be concentrated on the following rivers:

1.*Knife	6. Devil's Track
2. Gooseberry	7. Silver Creek
3. Brule	8. Temperance
4. Sucker	9. Split Rock
5. Baptism	10. Beaver

*Rivers are numbered according to priority.

2. Existing rest areas along the banks of high priority rivers should be relocated from one-eighth to one-quarter mile away from the stream. Access to the river from these areas should be provided.

b) Shorelands

Minimum standards to guide development along streams and lakes should be based on the existing county shoreland management regulations. These standards should be related to fisheries management objectives.

c) Scenic Areas

A plan should be developed for the construction of primitive campsites, hike-in picnic areas and a system of trails and trail-side rest points at especially scenic locations along the fall zones of North Shore Rivers. Development of these non-intensive facilities should be coordinated with the recommended interpretive system for the North Shore.

6. State Parks

NOTE: The following definitions apply to these recommendations:

Implementation Level 1: Actions which can be implemented immediately.

Implementation Level 2: Actions which require additional funding, planning, or administrative work.

Implementation Level 3: Actions which require substantial additional funding, planning or personnel.

a) Flood Bay

Level 1: Remove state park signs.

Level 2: Evaluate site for possible transfer to other agencies (local, state or federal)

Level 3: None

b) Gooseberry Falls

Level 1: a. Extend mark and enforce speed zone
b. Further develop trails

Level 2: a. Consider establishment of temporary maintenance and equipment shop

b. Redesign utilities and sewage system
c. Redesign entrance road and contact station
d. Redesign trail system
e. Develop interpretive program
f. Obtain fisheries easements on both sides of the Gooseberry River.

Level 3:
a. Reroute vehicular traffic
b. Reduce the number of existing campsites, locate low density camping facilities on the inland side of Highway 61, and generally encourage private businesses to provide high density vehicular camping facilities outside the park
c. Remove the existing rest area and substitute in its place a new Class II Rest Area at the Split Rock River.
d. Implement interpretive program.

c) Split Rock Lighthouse State Park

Level 1:
a. retain all land within the park boundary
b. locate intensive use facilities near the Lighthouse, low-intensity facilities near the River.

Level 2:
a. Cooperate with the Corps of Engineers in analyzing the Split Rock River site for a small boat harbor.
b. Acquire the remaining private lands in both the upper and lower portions of the Park as it becomes available.
c. A safe convenient access should be developed between the upper and lower portions of the Park.
d. The lower portion of the Park should be developed for tent camping; vehicular camping facilities should be developed near the highway in the upper portion.
e. The upper portions of Split Rock and Gooseberry Falls State Parks should be linked by a multi-use trail. This trail should connect with the North Shore Corridor Trail to provide access to both parks. In addition, the Trail would connect the parks to the combination harbor/trail service areas at Two Harbors and Silver Bay.
f. Obtain fisheries easements along the River above the park.

Level 3:
a. Gradually increase staff
b. Gradually upgrade sewer and water systems
c. Consider facilities for the handicapped
d. Develop a Class II Rest Area at the Split Rock River
e. Develop a small boat harbor

d) Baptism River State Park

Level 1: None

Level 2:
a. Develop a trail link between Baptism River and the North Shore Corridor Trail
b. Land exchange should be used wherever possible to acquire the necessary lands
c. DNR should work with DOT in transferring the parcel of land best suited for a Class II Rest Area

Level 3:
a. A Baptism River Cooperative Management Area should be established. A committee of private operators and state and local officials should coordinate development in Baptism and George Crosby Manitou State Parks and the Finland State Forest with private recreational development on peripheral land. A cooperative agreement should be written between the private resort owners and the state to establish mutual benefits and limits of each others jurisdiction. A boundary and management plan for the Cooperative Management Area should be developed which recognizes the area's potential for wildlife, forestry, fisheries and recreational development.
b. Because of the high demand at this location, facilities for day use activities and various types of camping should be provided. High intensity camping should be located near the highway where suitable soils exist.
c. Better sewage disposal systems need to be designed.
d. Provide a resident manager.

e) George Crosby/Manitou State Park

Level 1:
a. Reclaim gravel pits
b. Hire additional personnel to effectively manage this unit.

Level 2:
a. Develop backpacking trail to link this park with Baptism River and the Finland State Forest

Level 3:
a. The existing double entrance system should be replaced by a single entrance
b. The legal park boundary needs to be clarified and park lands should be consolidated into a manageable unit. All county lands within the statutory boundary should be acquired through land exchange. Private parcels that separate portions of state-owned lands in Sections 20 and 21 should be acquired when they become available. The park property in Sections 22 and 23, and the land west of County Road 7 should be exchanged for other parcels within the boundary. The state should acquire the private parcels that separate state lands above the highway from State land below the highway, providing access to and from Lake Superior and protecting the area from further incompatible development.
c. Expand the sewage system to accommodate current and future use.

f) Caribou Falls State Park

Level 1: a. Remove park signs
b. An easement should be retained along the river to provide access for fishermen

Level 2: a. Evaluate the site for possible transfer of land to other public agencies

Level 3: None

g) Cross River

Level 1: None

Level 2: Delete Cross River State Park from the state park system. Retain any easement along the river to facilitate trail access to the river. When the park is deleted, federal land should revert to the U.S. Forest Service while the trust fund property could be sold or exchanged for more manageable parcels elsewhere.

Level 3: None

h) Temperance River

Level 1: a. Continue to reclaim the gravel pits

Level 2: a. Consider the establishment of a temporary maintenance and equipment shop
b. A small boat harbor should be developed on adjacent U.S. Forest Service land with the cooperation of the Corps of Engineers. This federally-owned shoreline property represents the best potential site for a small boat harbor on the North Shore.
c. The rest area should be removed and a parking area should be provided in the upper portion for swimming hole users. Since vehicle camping has been phased out in the southern portion, the southern entrance should be closed.
d. Lands linking the upper portions of Temperance River and Cross River State Parks could form the nucleus of a recreation cluster. The federal land adjacent to the park, south of T.H. 61, should be included in the park. Temperance River should be linked to the North Shore Corridor Trail either driectly or through a common trail with Cross River. High intensity camping should be phased out as private camping facilities are developed nearby. Temperance River should be considered as a potential site for a centrally located interpretive center.

Level 3: a. Develop an interpretive center.
b. Develop facilities for passive recreation activities including tent camping, trail use, interpretation and boating.
c. Remove rest area and close south entrance.

i) Ray Berglund

Level 1:
a. Remove park sign
b. Determine the status of the park. Because Ray Bergl State Park is a "dedicated" property, the DNR legal staff must determine whether the area must be used as a state park or can be considered for other uses.
c. If Ray Berglund can legally be considered for other uses, it is recommended that the property be used for exchange, for more desirable properties elsewhere on the shore. Ray Berglund is too small for development as a state park and is impractical to manage on a daily basis. If the area must be retained in the state system, it is recommended that it be considered as a water access site or simply retained for fisheries management on the Onion River.

Level 2:
a. Evaluate the site for possible transfer to other public agencies.

Level 3: None

j) Cascade River

For clarity, Cascade River has been divided into four sections:

Section 1 - Recommendations

Level 1: None

Level 2:
a. Section 1 should be deleted from the park and transferred to the Division of Fish and Wildlife for wildlife management purposes.
b. Develop a wildlife management plan for Section 1. Educational interpretation of the management practices should be included in the development of the wildlife management program.

Level 3: None

Section 2

Level 1: None

Level 2: Lands in Section 2 should be consolidated with federal, state and private land and the park boundary redefined according to this change. The proposed boundary change would allow for development further up the river and would also allow for recreational development of areas with better soils.

Level 3:
a. Develop a lakeshore day-use site and a sheltered picnic area
b. Develop hiking trails and a winter camping site
c. Provide facilities for non-intensive camping

Section 3

Level 1: Evaluate interpretive potential of Thomsonite Beach

Level 2: a. Determine the economic value of the Thomsonite deposit
b. Purchase mineral rights as needed to interpret and preserve Thomsonite resource

Level 3: None

Section 4

Level 1: None

Level 2: See Rest Area Section

Level 3: a. Good Harbor Bay should be transferred to or developed in cooperation with the DOT for a Class II Rest Area. The acreage along the shore should be retained and utilized by DNR for a hiking trail and access to the beach. The Rest Area should not intrude on the bluff or beach resources. The state could also consider trading portions of Section 4 for the U.S. Forest Service parcel at Temperance River State Park.

k) Devil's Track Falls

Level 1: None

Level 2: a. Develop an off-road parking area and trails along the river
b. Intensify fisheries management

Level 3: a. Join three separate state-owned parcels through land exchanges

l) Kodonce

Level 1: a. Remove park sign
b. Evaluate site for its scientific and natural area potential

Level 2: Evaluate site for possible transfer to other public agencies

Level 3: None

m) Judge C.R. Magney

Level 1: Establish temporary group camp

Level 2: a. Remove rest area
b. Consider establishment of a Brule River Cooperative Management Area
c. Develop trail system to link with corridor trail

Level 3:
a. Reduce safety hazards on U.S. 61
b. Conduct a joint study with local interests to determine the suitability of land within the park for recreation, wildlife and forest management
c. Re-define park boundary in accordance with suitabilities
d. Develop day-use and camping facilities

GENERAL STATE PARK RECOMMENDATIONS

General Recommendations for Expansion and Consolidation of Properties

The expansion and acquisition of all properties should be consistent with the philosophy of making the parks more manageable through consolidation for recreational use, as required by the Outdoor Recreation Act of 1975 legislation.

All attempts will be made to consolidate recreational and other resource lands by trading various land parcels between various governmental agencies. By consolidating these lands for specific control, operational costs will be decreased.

General Recommendations for Relating the Public and Private Sector

The inter-relationship of public lands usage and the usage of private facilities for lodging and camping has a unique character in this part of the state. Therefore, the development of recreational facilities should be coordinated with the private sector. State parks should provide the large outdoor recreational developments that would be far too costly for the private sector to develop.

It has been shown that the private sector can benefit economically by providing food, gas, dump sites, and other services. Therefore, the state should not provide these services.

Camping facilities should be carefully coordinated between the state and the private sector. The state should provide camping facilities which the private sector cannot. All camping facilities provided by the state should gradually be phased out as private sector is able to provide them. The state should, however, continue to provide for the less intensive camping needs, since it has not been economically feasible for the private sector to provide for this demand.

General Recommendations for Maintenance and Operations

As the public has pointed out, many facilities within the parks, such as sewage and water systems, are apparently not being maintained. Special funding should be obtained for the immediate upgrading of sewage and water systems at Split Rock Lighthouse State Park, Baptism River State Park, and Cascade River State Park.

Refer to the Rest Area Section concerning the recommendations for other issues brought up by the public, such as solid waste removal problems, the servicing of equipment, the responsibility for road maintenance and plowing, and the uses of gravel sources within the park boundaries. These statements of recommendation, developed by both park staff and regional personnel, in cooperation with the Department of Transportation personnel, apply to park properties as well as rest areas.

In addition to these recommendations, there is a need for development of sewage systems within the parks, a need which is not present in the Class II rest areas (which require only vault systems). Therefore, with respect to sewage systems within the parks, we recommend the following:

> Since the resource conditions on the North Shore impose special restrictions on the development of on-site sewage systems, modified or new technology systems are needed in many cases. The state should provide leadership in implementing such systems in state parks, which may lead to their acceptance by the private sector.
>
> Such systems would be designed by the Pollution Control Agency on test area plots where the soils are similar to those that are in the most troublesome areas of private development, and on those soils determined as needing protection by the Coastal Zone System. It is recommended that funding be sought immediately for these projects, and that funding include monies for graphic presentation of the systems and make test results available to local residents.

The parks program should support the concept of cooperative management and the development of recreational clusters, and that the development of park lands be reflective of the following needs:

a. Systems analysis and soil evaluation has proved that the area located closest to the shore is more fragile, and therefore, more suitable for less use intensive development compared to land located farther inland. This development is suitable for lands along the shore and throughout scenic zone 2.

b. State parks will be managed exclusively for state park uses, and will not provide rest area associated uses.

c. It is recommended that special consideration be given to the design and location of power line right-of-ways passing through parks to insure minimum visual impact.

d. Special consideration should be given for provision of accesses from most of the state parks along the shore to the multi-use North Shore Trail system, and to the provision of accesses where there is a site which conforms to natural development.

Recreation facilities should be developed that are appropriate to the natural characteristics of the parks. Parks which fall into the day-use zone should be developed according to day-use activities, and destination-use parks should be developed according to more extended-use facilities.

All parks should be considered as experimental sites for the development of the outdoor accessibility program. The North Shore area is indeed a unique state resource which should be accessible and interpretable to all people. Thus, trails should be ranked according to a standard rating system. Loops should be developed along with access to major sites where undue alterations are not necessary.

Descriptive literature should be prepared for all recreation facilities on the North Shore.